SAMARSKIY, N.

Achievements of creative work. Mashinostroitel' no.1:32-33 Ja '60. (MIRA 13:4)
(Technological innovations)

SAMARSKIY, P.V., inzh. (Novosibirsk)

Signaling as train safety guard during car repairing. Zhel. dor. transp. 46 no.1:77 Ja '64. (MIRA 17:8)

1. Nachal'nik sluzhby vagonnogo khozyaystva Zapadno-Sibirskoy dorogi.

SAMARSKIY, P.V , inzhener (Novosibirsk).

Continuous operation method of repairing railroad cars. Zhel.dor. transp.38 no.12:65-67 D '56. (MLRA 10:2)

1. Nachal'nik sluzhby vagonnogo khozyaystva Tomskoy dorogi.
(Railroads--Cars--Maintenance and repair)

SAMRSKIY, P.V., inzh.

New equipment for tank car wash and steaming points. Zhel.dor.transp. 42 no.8:76-77 Ag '60. (MIRA 13:8)

1. Nachal'nik sluzhby vagonnogo khozyaystva Tomskoy dorogi, g.Novosibirsk.
(Tank cars--Maintenance and repair)

ZHMUDSKIY, O. [Zhmuds'kyi, O.], doktor fiz.-matem.nauk, prof.; USIKOV, O. [Usykov, O.]; SAMARSKIY, S. [Samars'kyi, S.], kand.biolog.nauk

Editor's mail. Nauka i zhyttia 12 no.11:54-55 N '62. (MIRA 16:1)

1. Chlen-korrespondent AN UkrSSR (for Usikov).
(Science--Miscellanea)

SAMARSKIY, S. L.

SAMARSKIY, S. L. -- "Significance of the Temperature Conditions in the Development of Brooder and Hatched Birds." *(Dissertations For Degrees In Science and Engineering Defended At USSR Higher Educational Institutions)(30) Min Higher Education USSR, Kiev, 1954

SO: KNIZHNAYA LETOPIS' No 30, 23 July 1955

* For the Degree of Candidate in Biological Sciences.

SAMARSKIY, S.L.

Reproduction of the mole rat Spalax leucodon Nordmann in Odessa Province. Zool.zhur. 41 no.10:1583-1584 O '62. (MIRA 15:12)

1. State Pedagogical Institute of Cherkassk.
(Odessa Province--Mole rat)

SEVAST'YANOV, V.D.; SAMARSKIY, S.L. [Samars'kyi, S.L.]

Burrows of the mouse (Mus musculus hortulanus) and mole rat (Spalax leucodon) as places of the reproduction of parasitic arthropods. Pratsi Od. Un. 152 Ser. biol. nauk no.12:54-59 '62. (MIRA 17:9)

SAMARSKIY, S. Ya.

"Importance of the Temperature Regime in the Development of Bird Embryos Before Hatching and in the Development of Nestling Birds." Cand Biol Sci, Dnepropetrovsk U, Kiev, 1954. (RZhBiol, No 8, Apr 55)

SO: Sum. No. 704, 2 Nov 55 - Survey of Scientific and Technical Dissertations Defended at USSR Higher Eduational Institutions (16).

SAMARSKIY, V. I

DNEPROVSKAYA, I. A., SAMARSKIY, V. I. and TIMOFEYEVA, E. A.

"Loudspeakers for Reproduction of Hight Audio KK Frequenicies."

paper presented at the 4th All-Union Conf. on Acoustics, Moscow, 26 May - 4 Jun 58.

SAMARSKIY, Ya., brigadir slesarey-montazhnikov

Three times faster. Na stroi. Ros. no.7:14 Jl '61. (MIRA 14:8)

1. MK No.3 tresta Vostokneftezavodmontazh.
(Pipe)

L 9293-66 EWT(1)/EWT(m)/T/EWP(t)/EWP(b)/EWA(c) IJP(c) JD/WW/GG

ACC NR: AP5026405 SOURCE CODE: UR/0386/65/002/006/0269/0274

AUTHOR: Alekseyevskiy, N. Ye.; Kir'yanov, A. P.; Nizhankovskiy, V. I.; Samarskiy, Yu. A.

ORG: Institute of Physics Problems, Academy of Sciences SSSR (Institut fizicheskikh problem Akademii nauk SSSR)

TITLE: Anisotropy of the Mossbauer effect in single crystals of tin at low temperatures

SOURCE: Zhurnal eksperimental'noy i teoreticheskoy fiziki. Pis'ma v redaktsiyu. Prilozheniye, v. 2, no. 6, 1965, 269-274

TOPIC TAGS: Mossbauer effect, tin, single crystal, resonance absorption, temperature dependence

ABSTRACT: The authors report the results of measurements of resonant absorption of recoilless 23.8-kev γ rays produced by the decay of Sn^{119m} in single crystals of tin, in the temperature interval 4.2--280K. The measurements were made with a setup in which the absorber was caused to move at constant speed relative to the source, using a specially shaped eccentric (Fig. 1). The γ-ray source was an SnO_2 compound ~30 mg/cm^2 thick; the collimator diameter was 7 mm. The x-radiation was applied through a filter of palladium foil 60 μ thick. During measurements the source was always kept at ≤ 77K. The absorbers were plates with orientations [001] and [100] cut from single-crystal tin enriched with Sn^{120} and containing 1.7% Sn^{119}. The apparatus and

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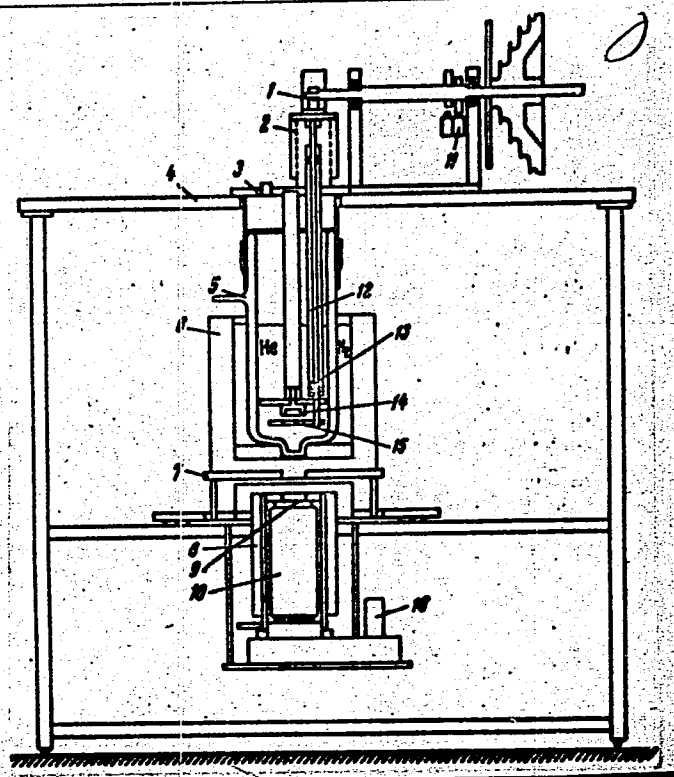
L 9293-66

ACC NR: AP5026405

Fig. 1. Over-all view of the installation.

1 - Eccentric cam, 2 - bellows, 3 - cap, 4 - mounting stand, 5 - helium Dewar, 6 - container for liquid nitrogen, 7 - lead screen, 8 - thermostat, 9 - NaI(Tl) crystal, 10 - FEU-13 photomultiplier, 11 - commutator, 12 - stem, 13 - stuffing box, 14 - radiation source, 15 - absorber, 16 - high-voltage supply.



Card 2/3

L 9293-66

ACC NR: AP5026405

procedure are described briefly. Typical resonance absorption curves and the temperature dependence of the amplitude of the maximum absorption are presented. The experimental data were reduced by a procedure described earlier (G. A. Bykov and Pham Zuy Hien, ZhETF v. 43, 909, 1962). By using large statistics, a stronger source, better instrumental geometry, and single-crystal samples, the authors were able to establish the presence of anisotropy of the Mossbauer effect at 4.2K. The magnitude of the anisotropy was found to be (1.08 ± 0.02), and to go through an inversion in the region T = (40 ± 5)K. The temperature dependence of the Mossbauer-effect anisotropy can probably be attributed to an overlap of the optical and acoustical branches of the phonon spectrum of tin. Orig. art. has: 3 figures and 1 table.

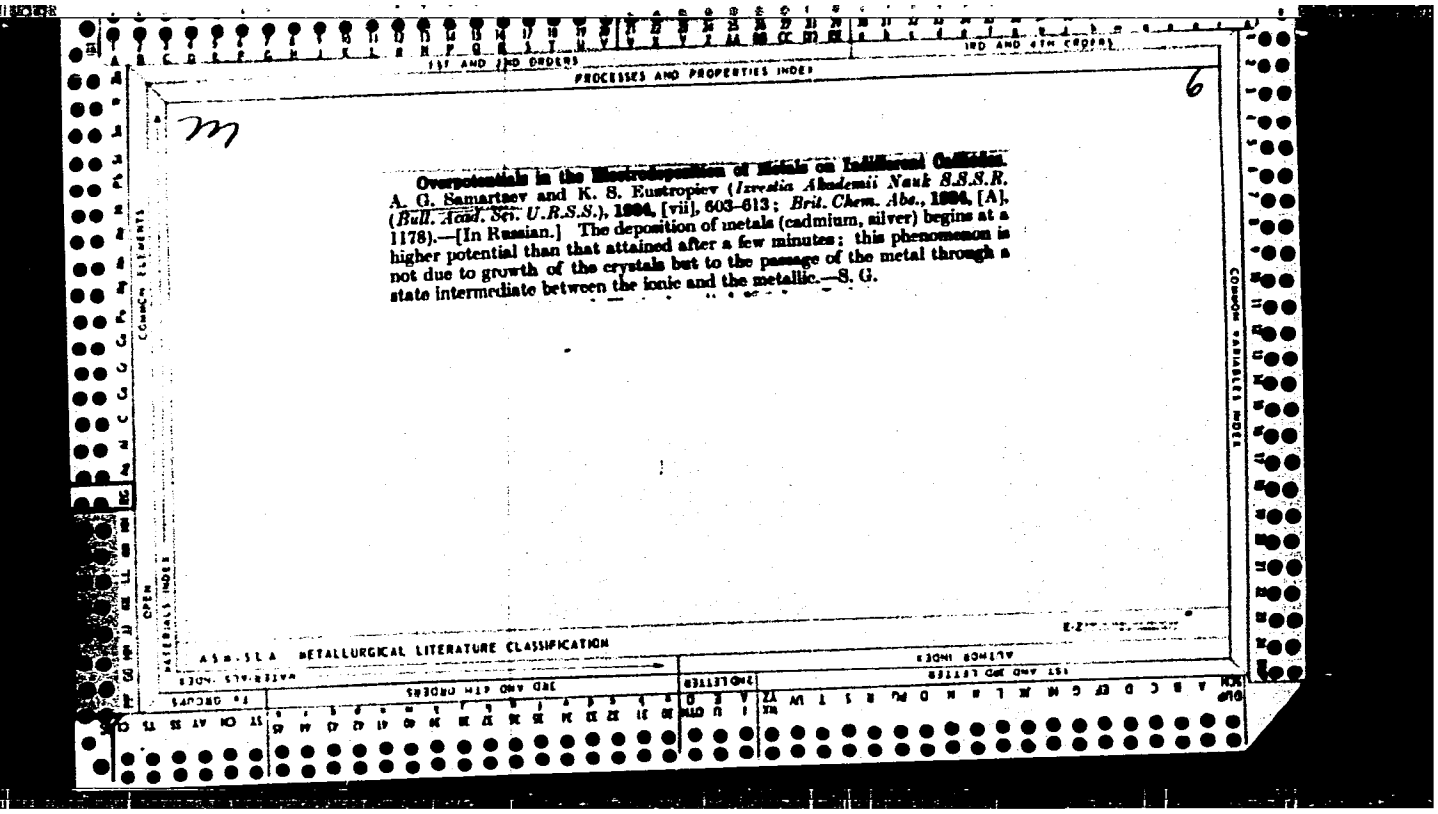
SUB CODE: 20/ SUBM DATE: 20Jul65/ ORIG REF: 003/ OTH REF: 002

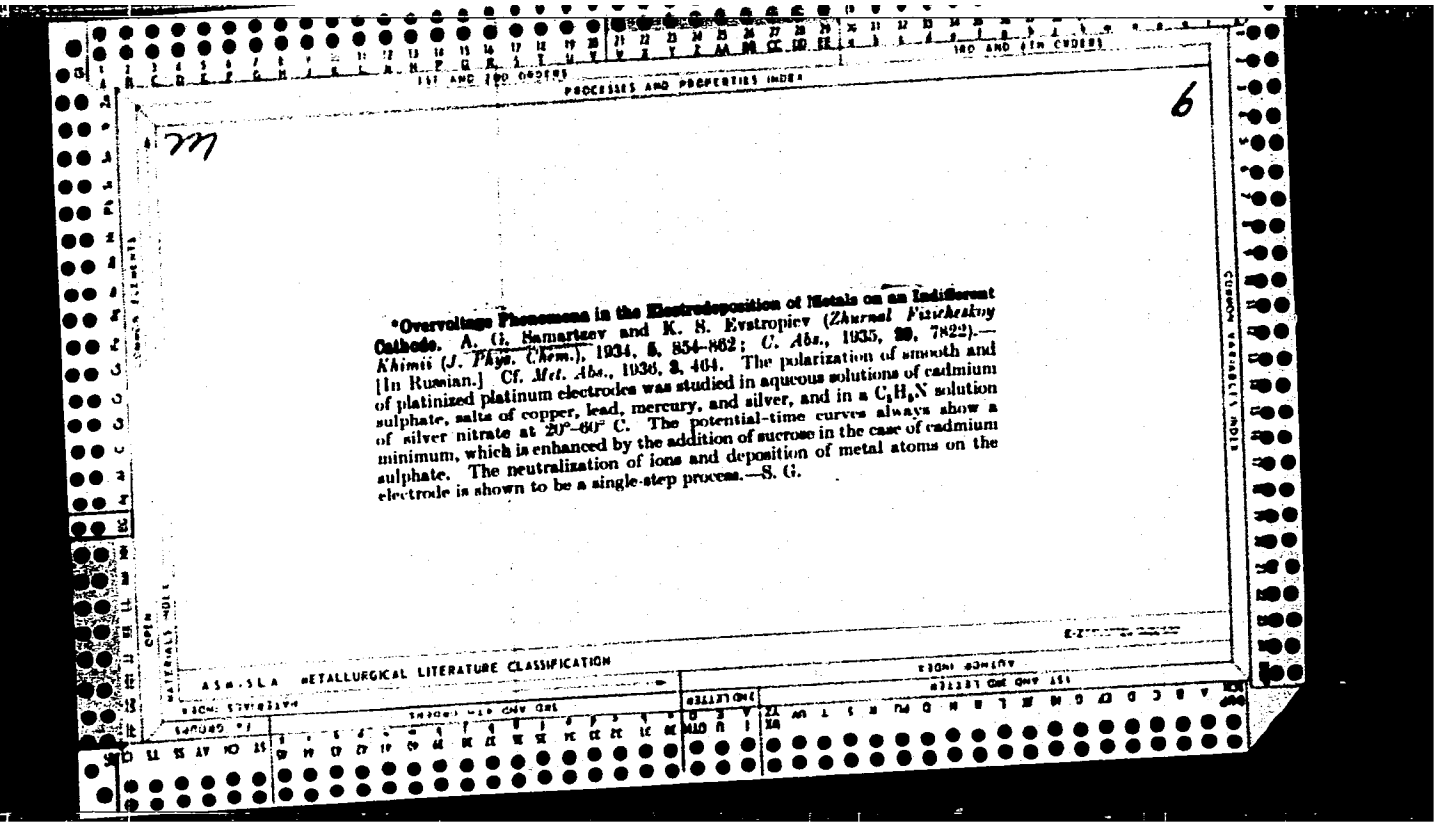
BC

Card 3/3

SAMARTSEV, A. (g.Penza)

Accelerate the growth of shelterbelts. Zhel.dor.transp. 36 no.6:84-85 Je '55. (MIRA 12:4)
(Windbreaks, shelterbelts, etc.)





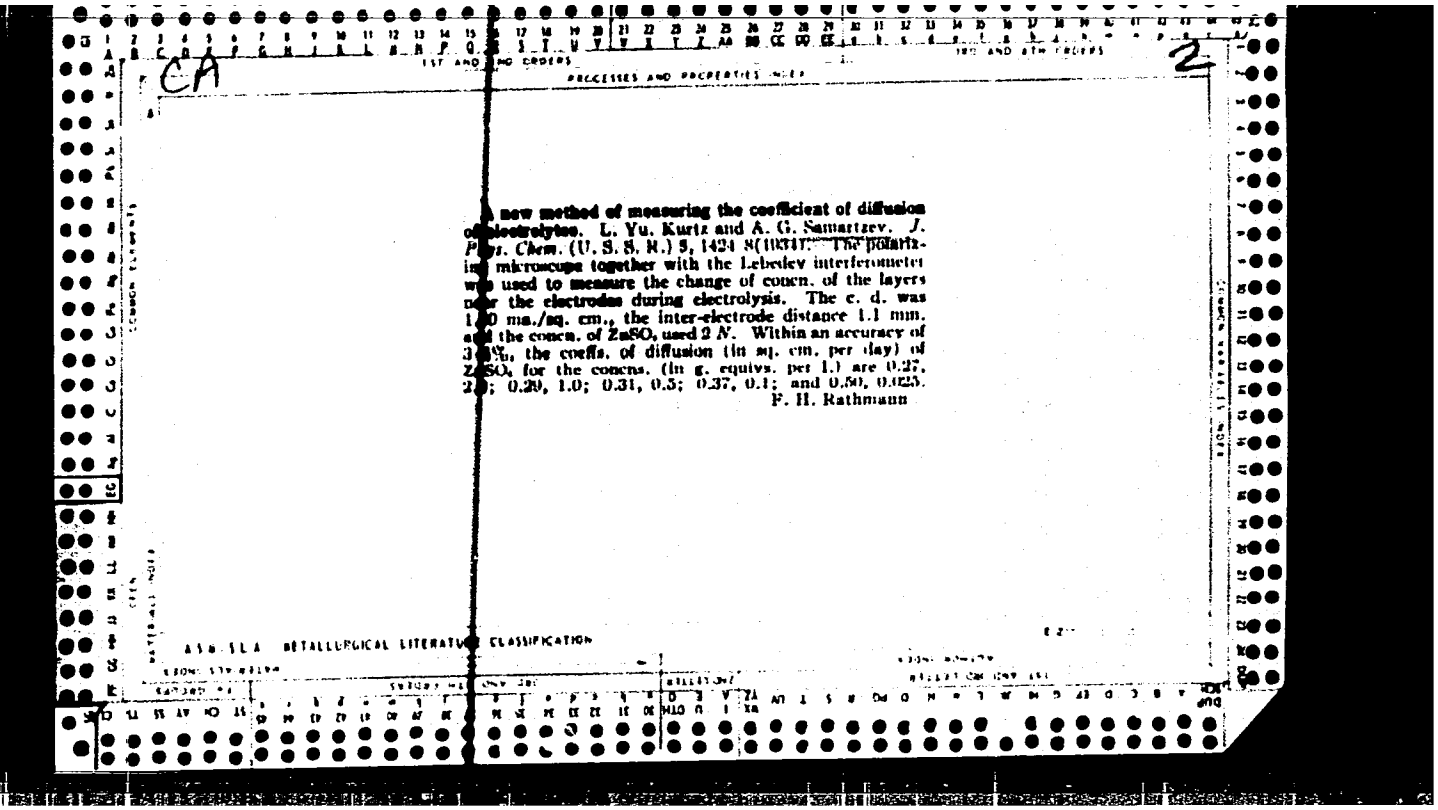
PROCESSES AND PROPERTIES INDEX

6

777

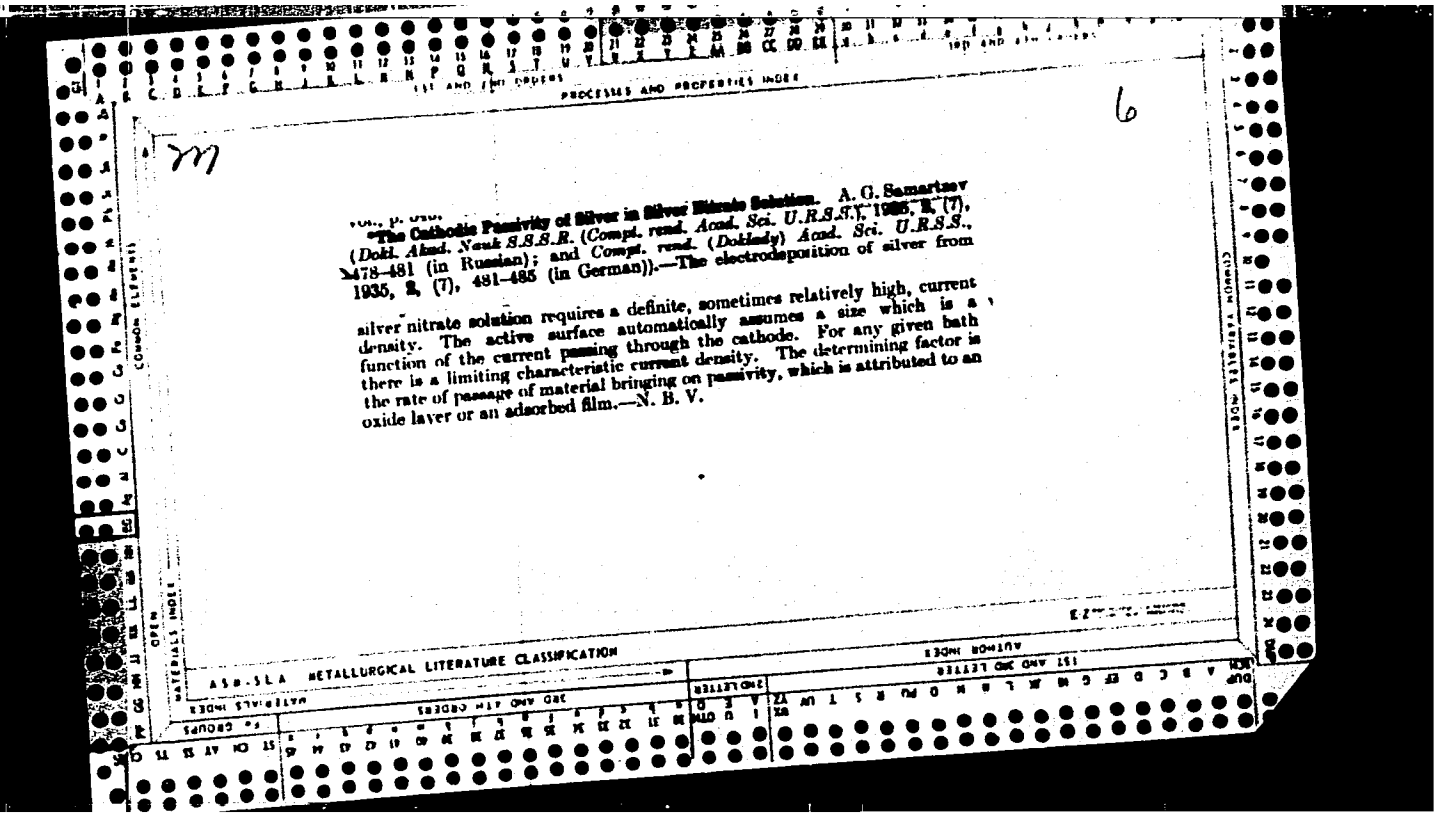
***Overvoltage Phenomena in the Electrodeposition of Metals on an Indifferent Cathode.** A. G. Samartsev and K. S. Evstropiev (*Zhurnal Fizicheskoy Khimii* (*J. Phys. Chem.*), 1934, **5**, 854–862; *C. Abs.*, 1935, **29**, 7822).—[In Russian.] Cf. *Met. Abs.*, 1936, **3**, 404. The polarization of smooth and of platinized platinum electrodes was studied in aqueous solutions of cadmium sulphate, salts of copper, lead, mercury, and silver, and in a C_5H_5N solution of silver nitrate at 20°–60° C. The potential-time curves always show a minimum, which is enhanced by the addition of sucrose in the case of cadmium sulphate. The neutralization of ions and deposition of metal atoms on the electrode is shown to be a single-step process.—S. G.

ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION



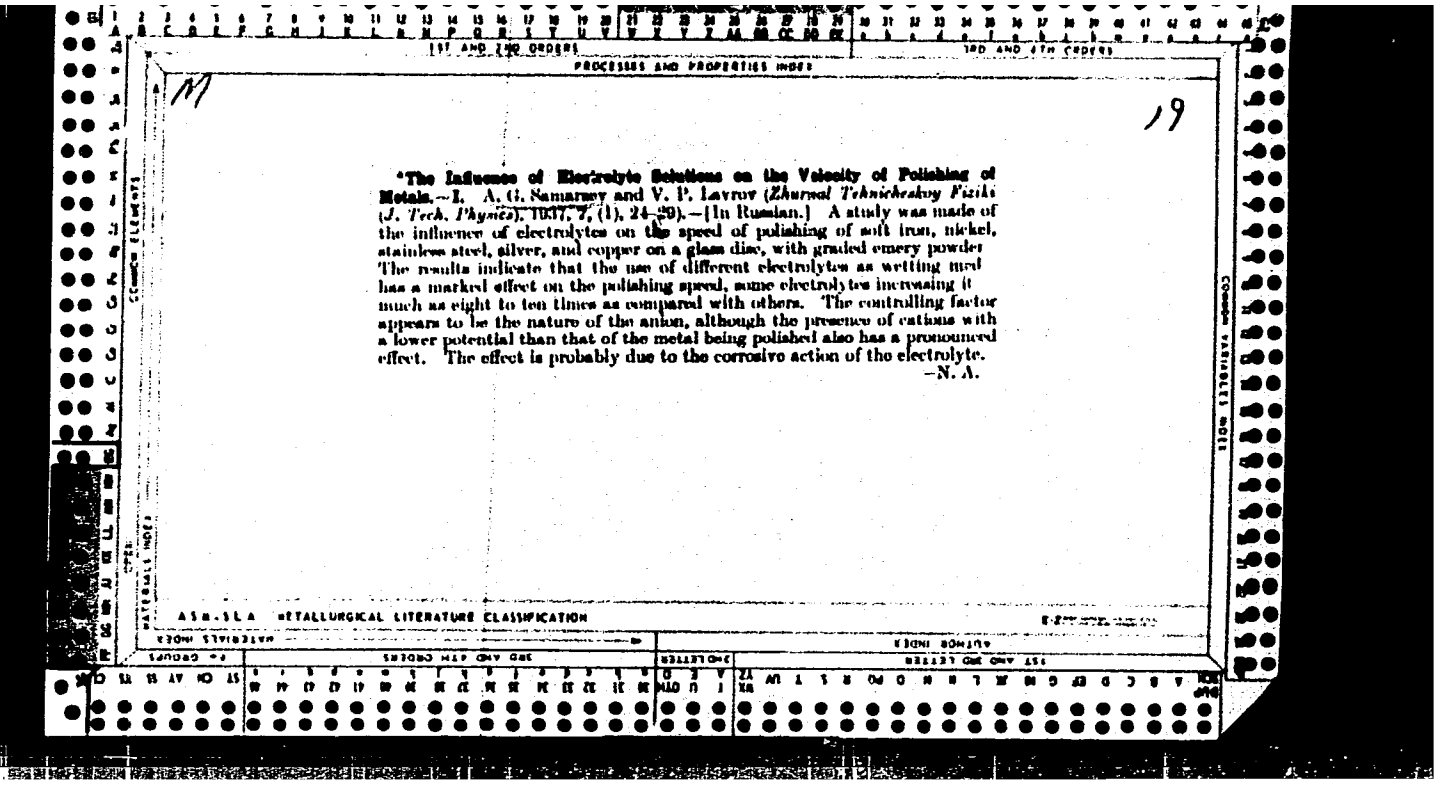
A new method of measuring the coefficient of diffusion of electrolytes. L. Yu. Kurtz and A. G. Samartzev. *J. Phys. Chem.* (U. S. S. R.) 5, 1424-8(1934). The polarizing microscope together with the Lebedev interferometer was used to measure the change of concn. of the layers near the electrodes during electrolysis. The c. d. was 1.50 ma./sq. cm., the inter-electrode distance 1.1 mm. and the concn. of $ZnSO_4$ used 2 *N*. Within an accuracy of 3-5%, the coeffs. of diffusion (in sq. cm. per day) of $ZnSO_4$ for the concns. (in g. equivs. per l.) are 0.27, 2.0; 0.20, 1.0; 0.31, 0.5; 0.37, 0.1; and 0.50, 0.025.

F. H. Rathmann



6

The Cathodic Passivity of Silver in Silver Nitrate Solution. A. G. Samartsev (*Dokl. Akad. Nauk S.S.S.R.* (*Compt. rend. Acad. Sci. U.R.S.S.*), 1935, **2**, (7), 478–481 (in Russian); and *Compt. rend.* (*Doklady*) *Acad. Sci. U.R.S.S.*, 1935, **2**, (7), 481–485 (in German)).—The electrodeposition of silver from silver nitrate solution requires a definite, sometimes relatively high, current density. The active surface automatically assumes a size which is a function of the current passing through the cathode. For any given bath there is a limiting characteristic current density. The determining factor is the rate of passage of material bringing on passivity, which is attributed to an oxide layer or an adsorbed film.—N. B. V.



PROCESSES AND PROPERTIES INDEX

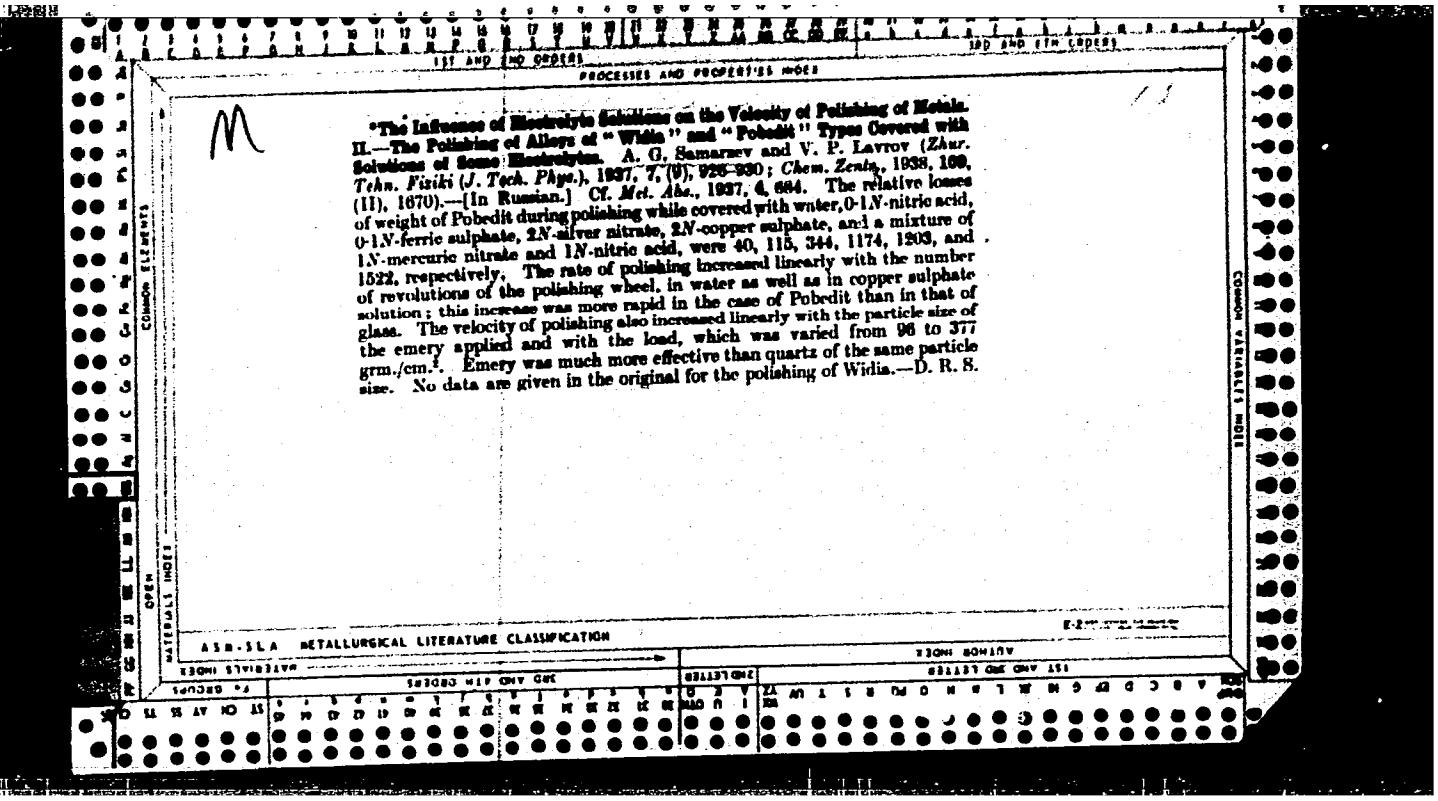
M

19

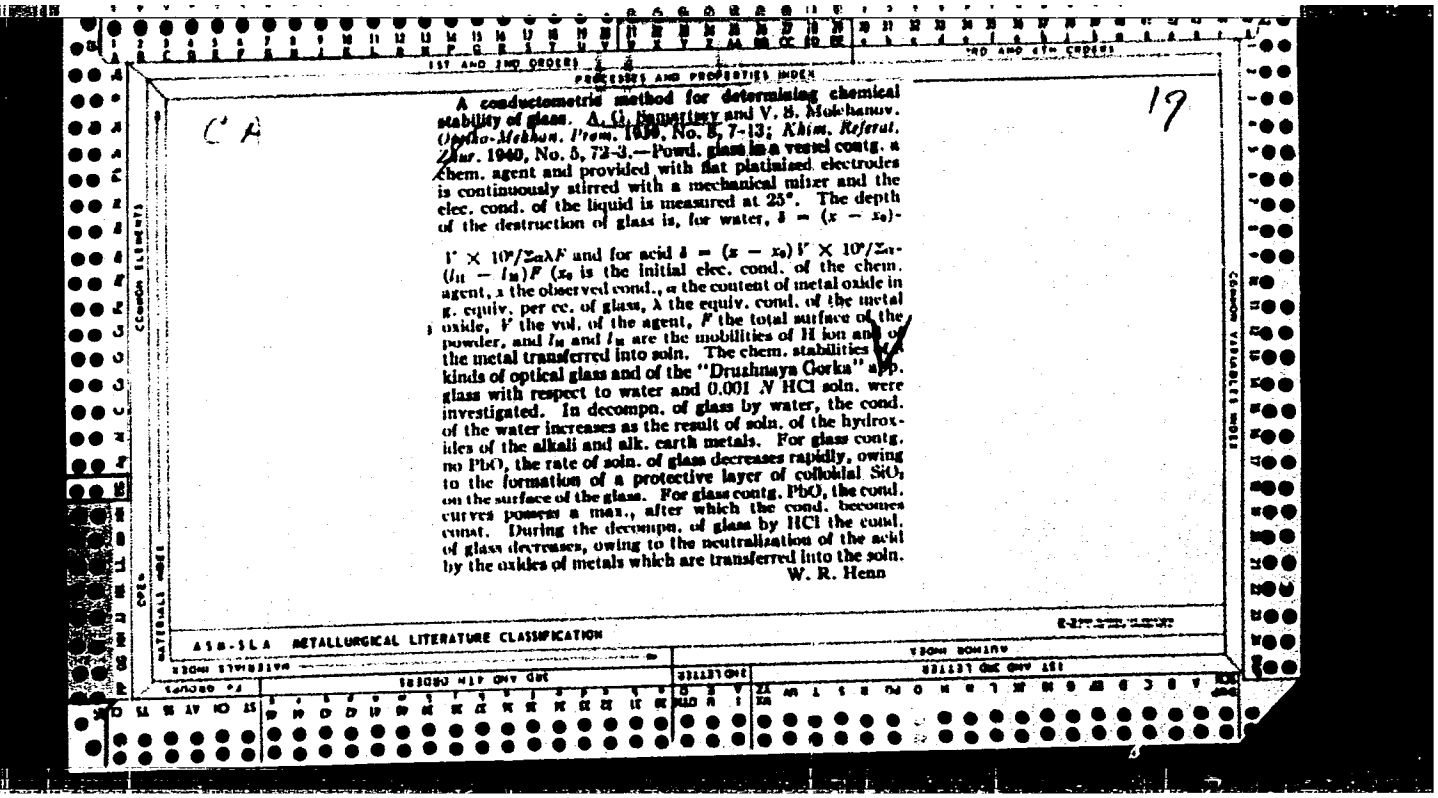
***The Influence of Electrolyte Solutions on the Velocity of Polishing of Metals.**—I. A. G. Samarsev and V. P. Lavrov (*Zhurnal Tekhicheskoy Fiziki* (*J. Tech. Physics*), 1937, **7**, (1), 24–29).—[In Russian.] A study was made of the influence of electrolytes on the speed of polishing of soft iron, nickel, stainless steel, silver, and copper on a glass disc, with graded emery powder. The results indicate that the use of different electrolytes as wetting med has a marked effect on the polishing speed, some electrolytes increasing it much as eight to ten times as compared with others. The controlling factor appears to be the nature of the anion, although the presence of cations with a lower potential than that of the metal being polished also has a pronounced effect. The effect is probably due to the corrosive action of the electrolyte.

—N. A.

ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION



"The Influence of Electrolyte Solutions on the Velocity of Polishing of Metals. II.—The Polishing of Alloys of "Widia" and "Pobedit" Types Covered with Solutions of Some Electrolytes. A. G. Samarsev and V. P. Lavrov (*Zhur. Tekh. Fiziki* (*J. Tech. Phys.*), 1937, 7, (9), 926–930; *Chem. Zentr.*, 1938, 109, (II), 1670).—[In Russian.] Cf. *Met. Abs.*, 1937, 4, 684. The relative losses of weight of Pobedit during polishing while covered with water, 0·1*N*-nitric acid, 0·1*N*-ferric sulphate, 2*N*-silver nitrate, 2*N*-copper sulphate, and a mixture of 1*N*-mercuric nitrate and 1*N*-nitric acid, were 40, 115, 344, 1174, 1203, and 1522, respectively. The rate of polishing increased linearly with the number of revolutions of the polishing wheel, in water as well as in copper sulphate solution; this increase was more rapid in the case of Pobedit than in that of glass. The velocity of polishing also increased linearly with the particle size of the emery applied and with the load, which was varied from 96 to 377 grm./cm.². Emery was much more effective than quartz of the same particle size. No data are given in the original for the polishing of Widia.—D. R. S.



C A

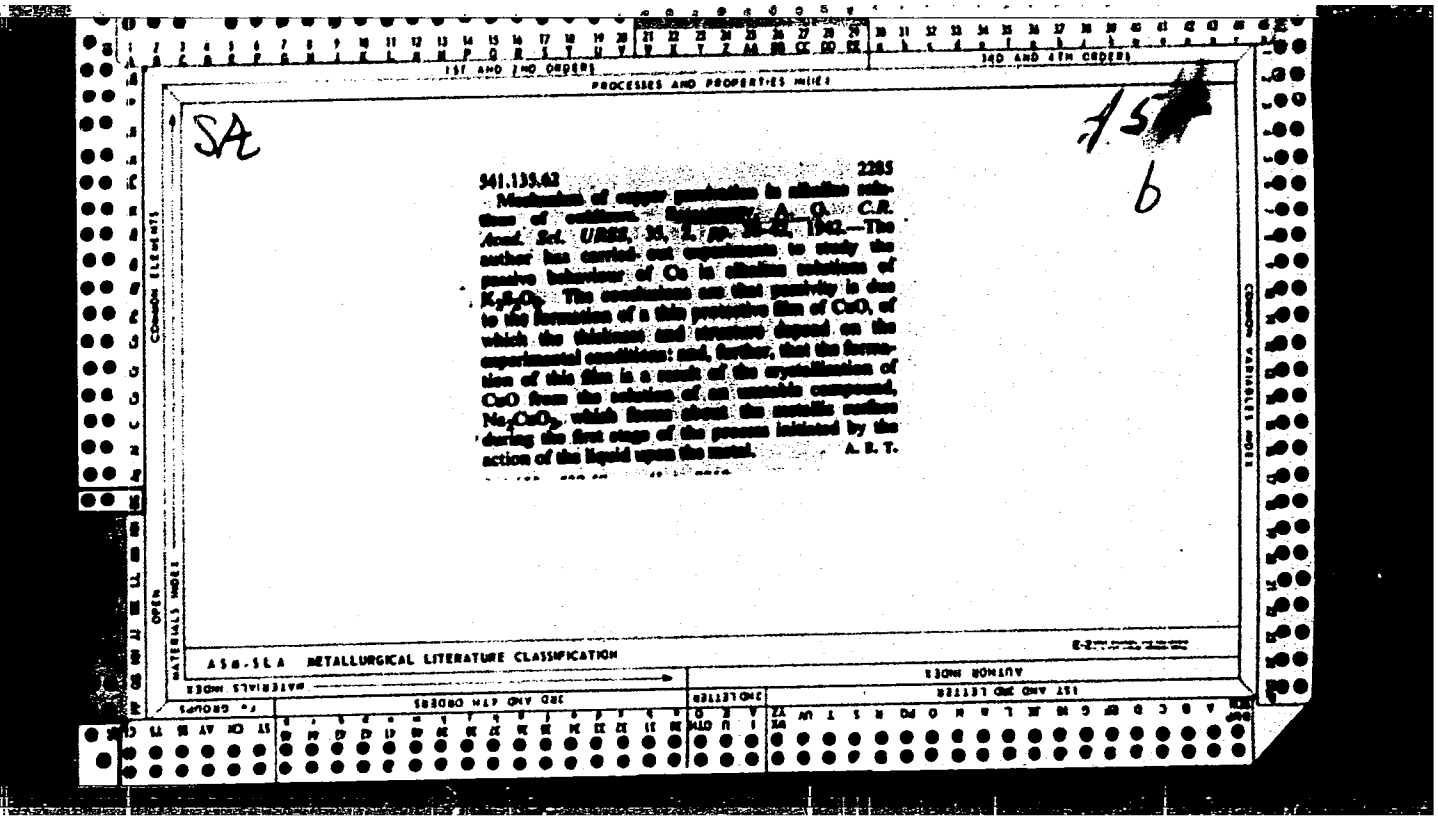
19

A conductometric method for determining chemical stability of glass. A. G. Bazarova and V. S. Molchanov. *Optiko-Mekhan. Prom.* 1939, No. 5, 7-13; *Khim. Referat. Zhur.* 1940, No. 5, 72-3.—Powd. glass in a vessel contg. a chem. agent and provided with flat platinized electrodes is continuously stirred with a mechanical mixer and the elec. cond. of the liquid is measured at 25°. The depth of the destruction of glass is, for water, $\delta = (x - x_0)V \times 10^9/\Sigma a\lambda F$ and for acid $\delta = (x - x_0)V \times 10^9/\Sigma a(l_H - l_M)F$ (x_0 is the initial elec. cond. of the chem. agent, x the observed cond., a the content of metal oxide in g. equiv. per cc. of glass, λ the equiv. cond. of the metal oxide, V the vol. of the agent, F the total surface of the powder, and l_H and l_M are the mobilities of H ion and of the metal transferred into soln. The chem. stabilities of 4 kinds of optical glass and of the "Druzhnaya Gorka" app. glass with respect to water and 0.001 *N* HCl soln. were investigated. In decompn. of glass by water, the cond. of the water increases as the result of soln. of the hydroxides of the alkali and alk. earth metals. For glass contg. no PbO, the rate of soln. of glass decreases rapidly, owing to the formation of a protective layer of colloidal SiO_2 on the surface of the glass. For glass contg. PbO, the cond. curves possess a max., after which the cond. becomes const. During the decompn. of glass by HCl the cond. of glass decreases, owing to the neutralization of the acid by the oxides of metals which are transferred into the soln.

W. R. Henn

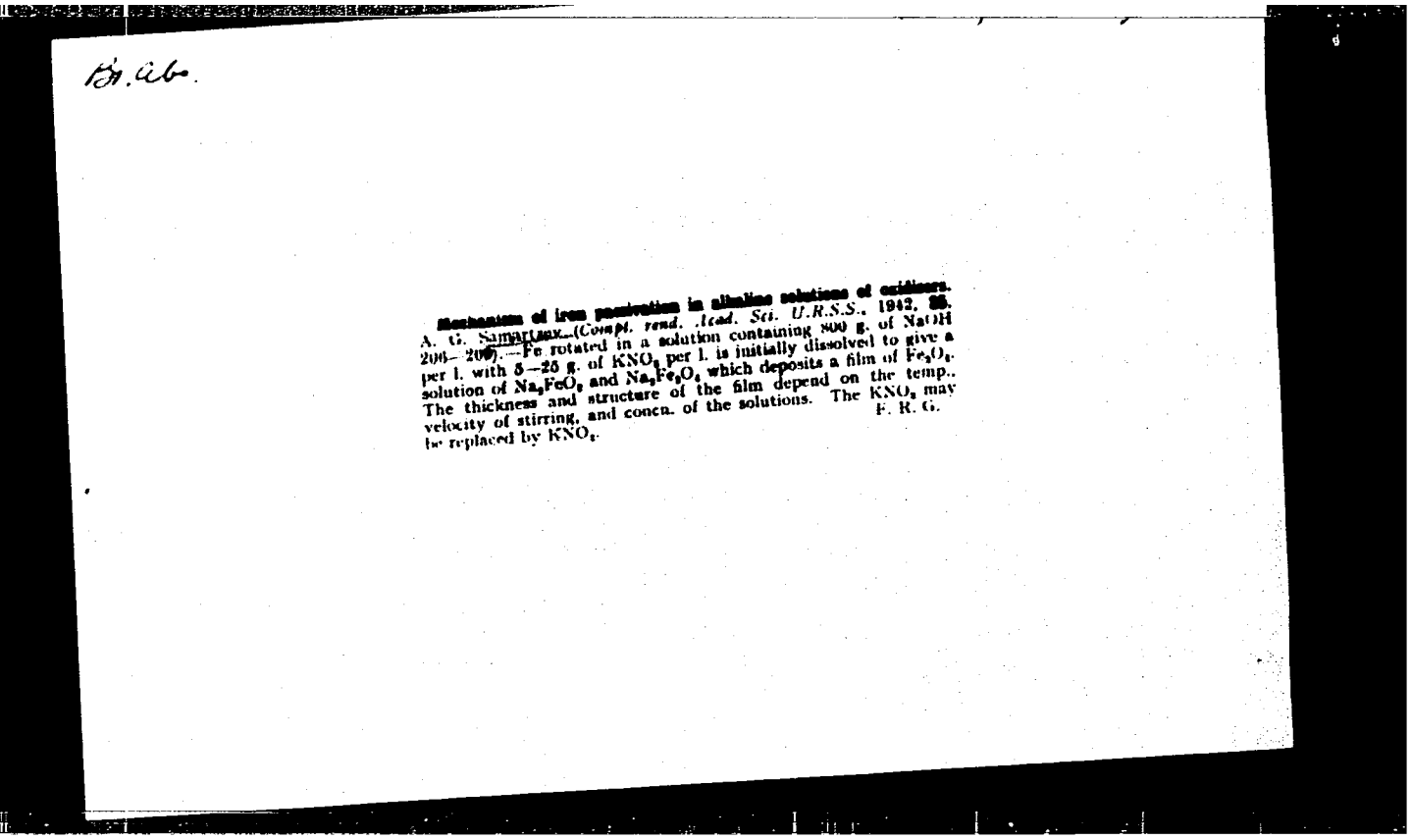
A58-SLA METALLURGICAL LITERATURE CLASSIFICATION

Retardation phenomena in the electrolytic formation of metallic crystals and their growth. A. Samartzev (*Acta Physicochim. U.R.S.S.*, 1942, **16**, 206—235).—Certain impurities in electrolytes, acting like protective colloids, can hinder the growth of crystals of metals deposited electrolytically on a cryst. cathode. Such substances may be definite additions to the electrolyte, or they may be hydr. oxides formed at the cathode. Colloids are adsorbed by the electrodes and hinder the formation of new crystal nuclei and the growth of crystals. The separation of Ag from $AgNO_3$ was particularly studied, and the growth of a single crystal of Ag was investigated. The growth of a surface can occur only if the c.d. is < a certain val. Places where the c.d. is > this val. become covered with an adsorbed layer and are rendered passive. A. J. M.



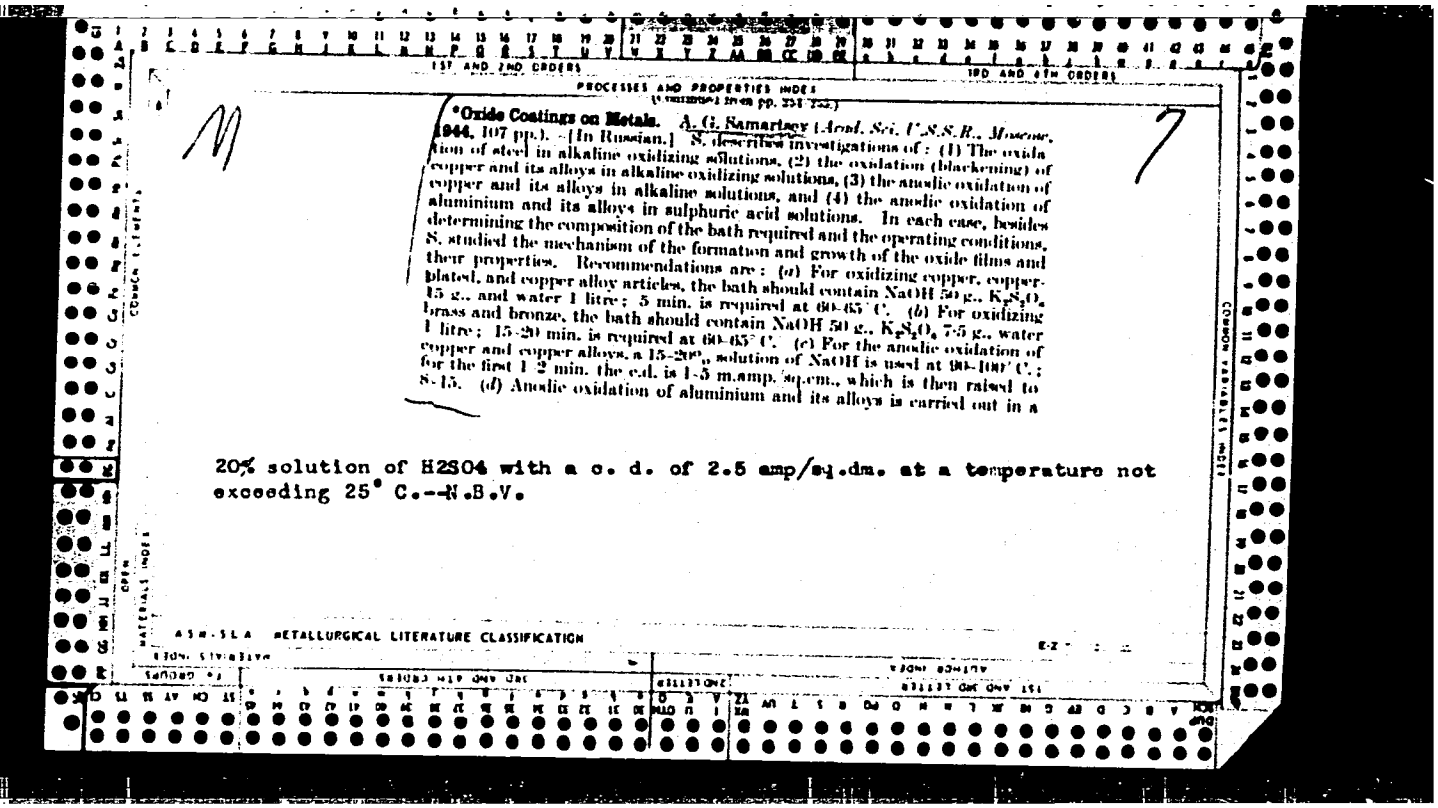
941.139.62 2285

Mechanism of copper passivation in alkaline solutions of oxidizers. [illegible] A. Q. C.R. Acad. Sci. URSS, 31, [illegible] 1962.—The author has carried out experiments to study the passive behaviour of Cu in alkaline solutions of $K_2S_2O_8$. The conclusions are that passivity is due to the formation of a thin protective film of Cu_2O, of which the thickness and structure depend on the experimental conditions; and, further, that the formation of this film is a result of the crystallization of CuO from the solution of an unstable compound, Na_2CuO_2, which forms about the metallic surface during the first stage of the process initiated by the action of the liquid upon the metal. A. B. T.



Bh.Ab.

Mechanism of iron passivation in alkaline solutions of oxidizers. A. G. Samartsev. (*Compt. rend. Acad. Sci. U.R.S.S.*, 1942, **35**, 206—209).—Fe rotated in a solution containing 800 g. of NaOH per l. with 5—25 g. of KNO_3 per l. is initially dissolved to give a solution of Na_2FeO_2 and $Na_2Fe_2O_4$ which deposits a film of Fe_3O_4. The thickness and structure of the film depend on the temp., velocity of stirring, and concn. of the solutions. The KNO_3 may be replaced by KNO_2. F. R. G.



PROCESSES AND PROPERTIES INDEX

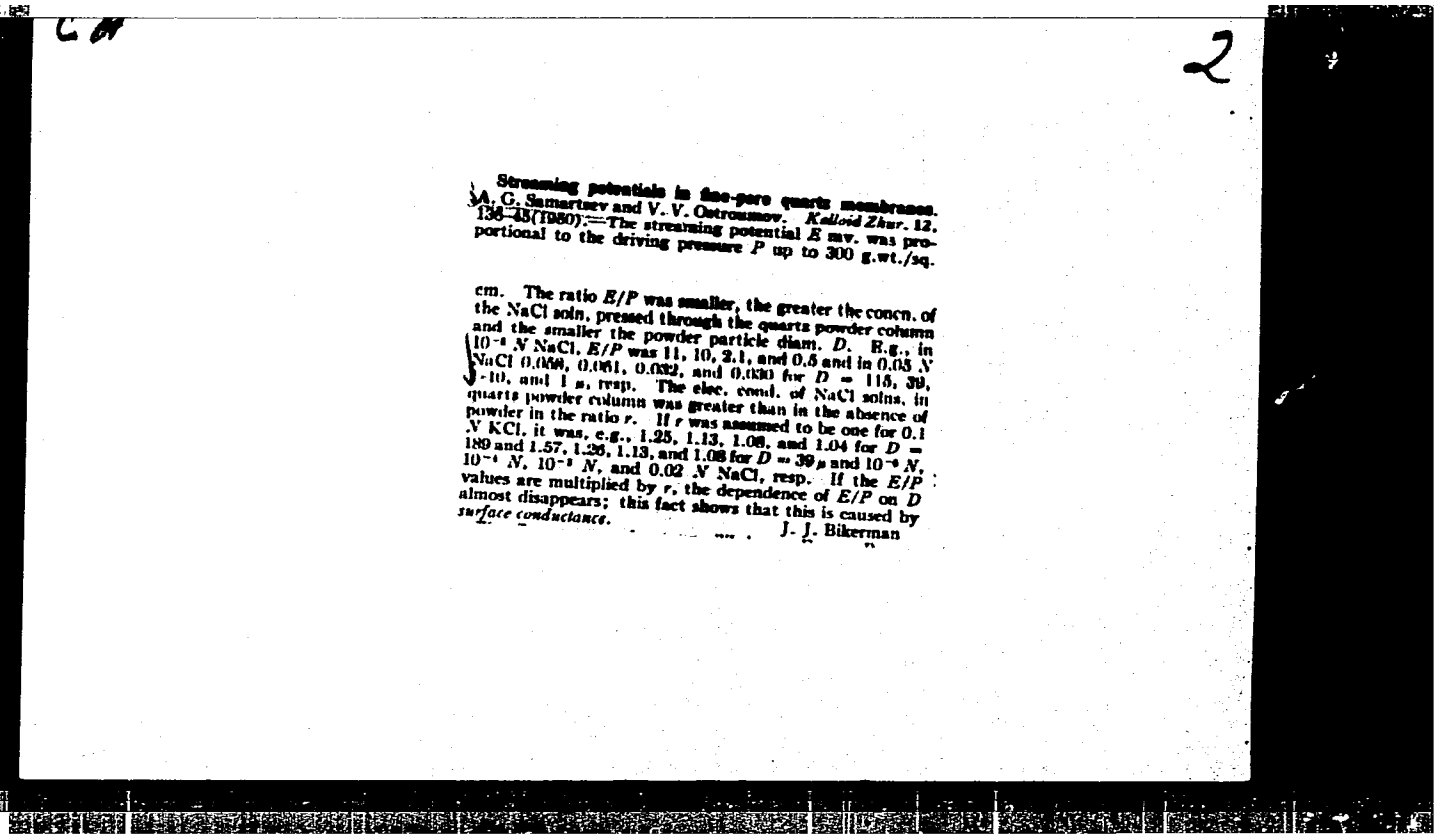
M

7

***Oxide Coatings on Metals.** A. G. Samartsev (*Acad. Sci. U.S.S.R., Moscow*, 1944, 107 pp.). [In Russian.] S. describes investigations of: (1) The oxidation of steel in alkaline oxidizing solutions, (2) the oxidation (blackening) of copper and its alloys in alkaline oxidizing solutions, (3) the anodic oxidation of copper and its alloys in alkaline solutions, and (4) the anodic oxidation of aluminium and its alloys in sulphuric acid solutions. In each case, besides determining the composition of the bath required and the operating conditions, S. studied the mechanism of the formation and growth of the oxide films and their properties. Recommendations are: (*a*) For oxidizing copper, copper-plated, and copper alloy articles, the bath should contain NaOH 50 g., $K_2S_2O_8$ 15 g., and water 1 litre; 5 min. is required at 60-65° C. (*b*) For oxidizing brass and bronze, the bath should contain NaOH 50 g., $K_2S_2O_8$ 7·5 g., water 1 litre; 15-20 min. is required at 60-65° C. (*c*) For the anodic oxidation of copper and copper alloys, a 15-20% solution of NaOH is used at 90-100° C.; for the first 1-2 min. the c.d. is 1-5 m.amp. sq.cm., which is then raised to 8-15. (*d*) Anodic oxidation of aluminium and its alloys is carried out in a

20% solution of H2SO4 with a c. d. of 2.5 amp/sq.dm. at a temperature not exceeding 25° C.--N.B.V.

A.S.M.-S.L.A. METALLURGICAL LITERATURE CLASSIFICATION



2

Streaming potentials in fine-pore quartz membranes. A. G. Samartsev and V. V. Ostroumov. *Kolloid Zhur.* 12, 136–43(1950):—The streaming potential E mv. was proportional to the driving pressure P up to 300 g.wt./sq. cm. The ratio E/P was smaller, the greater the concn. of the NaCl soln. pressed through the quartz powder column and the smaller the powder particle diam. D. E.g., in 10^{-4} N NaCl, E/P was 11, 10, 2.1, and 0.5 and in 0.05 N NaCl 0.088, 0.061, 0.032, and 0.030 for D = 115, 39, 5–10, and 1 μ, resp. The elec. cond. of NaCl solns. in quartz powder column was greater than in the absence of powder in the ratio r. If r was assumed to be one for 0.1 N KCl, it was, e.g., 1.25, 1.13, 1.08, and 1.04 for D = 189 and 1.57, 1.26, 1.13, and 1.08 for D = 39 μ and 10^{-4} N, 10^{-4} N, 10^{-3} N, and 0.02 N NaCl, resp. If the E/P values are multiplied by r, the dependence of E/P on D almost disappears; this fact shows that this is caused by *surface conductance.* J. J. Bikerman

SAMARTSEV, A.G.

USSR/Chemistry - Physical chemistry

Card 1/1 Pub. 151 - 1/37

Authors : Samartsev, A. G., and Levitina, Z. I.

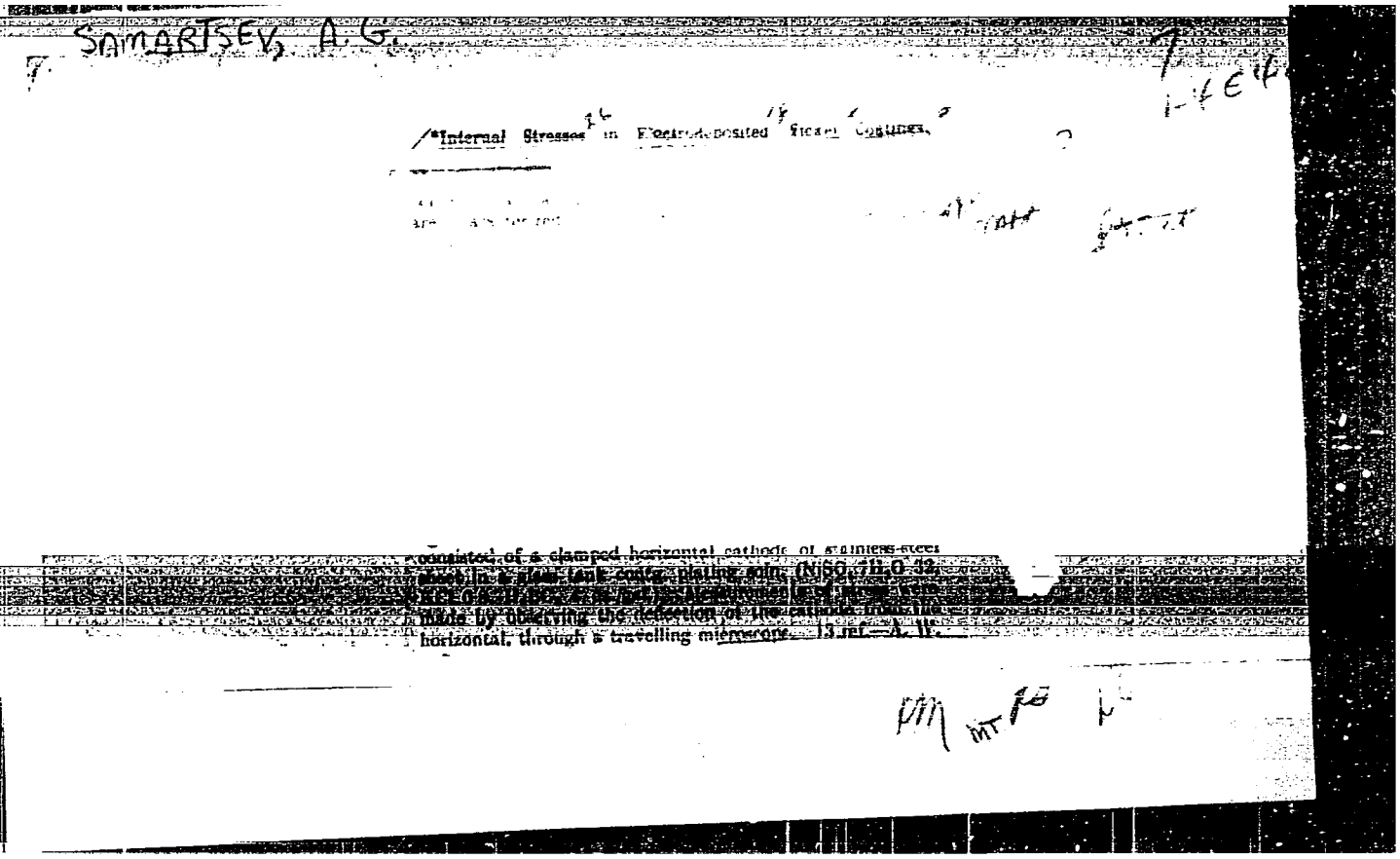
Title : Behavior of magnesium in potassium bichromate solutions

Periodical : Zhur. ob. khim. 24/10, 1697-1700, Oct 1954

Abstract : The rate of development of protective films on magnesium, when subjected to the effect of potassium bichromate solutions containing certain activating additions, was investigated. The passivation of Mg in $K_2Cr_2O_7$ solutions was established at room temperature and at boiling temperature. Passivity was found to be the result of the formation of a thin non-visible protective film consisting of hardly soluble components. The effect of activating salts on the passivation of the metal and the relation between the activating salts and the temperature and acidity of the solution, are explained. Four references: 2-USSR; 1-German and 1-USA (1907-1954). Graphs.

Institution : ...

Submitted : May 13, 1954



SAMARTSEV, A. G.

/*Internal Stresses in Electrodeposited Steam Coatings.

consisted of a clamped horizontal cathode of stainless steel

horizontal, through a travelling microscope.

SAMARTSEV, A.G.

AUTHORS: Lyzlov, Yu.V., Mechkovskaya, T.A., Samartsev, A.G. 76-12-18/27

TITLE: The Effect of Gelatin on the Formation of Electrolytic Copper Deposits (Vliyaniye zhelatiny na obrazovaniye elektroliticheskikh osadkov medi).

PERIODICAL: Zhurnal Fizicheskoy Khimii, 1957, Vol. 31, Nr 12, pp.2720-2724 (USSR)

ABSTRACT: The results of observation of the surface of a cathode during the precipitation of copper from a sulphate of electrolyte to which gelatin was added, are given here by registration of the cathode-potential-change with respect to time. The results should contribute to the clarification of the still unclear process with the formation of brilliant galvanic deposits. The observation of the micro-cathode surface during the precipitation of copper from the acid copper bath with an addition of gelatin for imparting brightness was carried out by means of a microscope. The observations show the possibility of the existence of two various states of the cathode surface. These two states can be realized simultaneously under certain conditions. In this case, the surface of the cathode is divided into two parts: an active, and a passive range. They apparently are distinguished by the properties of the adsorption layers of the colloid covering

Card 1/4

them. The formation of a thick layer of adsorption, which is impermeable to the discharging ions, requires, due to the low diffusion speed and the not high concentration of the colloid substance in the solution, a certain time. If the current density is higher than the critical, then the quick renewal of the surface of the deposit prevents the formation of such a layer. The amount of critical current density required for maintaining the cathode in active state is determined by the nature of the colloid-substance, its concentration, and by the conditions under which the electrolysis is carried out. The formation of an active surface is only possible if the amount of the critical current density does not exceed the value of the limiting current for the given electrolyte. With a total current intensity, which does not suffice for maintaining the critical current density on the whole surface of the cathode, the ranges to which the access of colloids is facilitated, (e.g. due to convection currents) is passive. The passivity lasts as long as the current density in the ranges preserving the activity does not attain the critical value. A further passivity prevents the increasing polarization of concentration. The metal deposit on the passive surface is apparently

a totality of a great number of processes independent from each other. The depositions of the metal on the passive surface take place in various points. The microscopic projections developing impart a coarse character to the surface. These rounded projections are apparently polycrystalline formations. The increase of the deposits on the active surface takes a quite different course. Here the whole surface participates in the electrolysis. The active surface remains smooth and brilliant independent of the thicknesses of the deposited metal layer. The deposits point to a lamellar structure. The layers proceed approximately parallel to the plane of the surface. All reasons indicate that the formation of the brilliant copper deposits is in immediate context with the rhythmic character of the cathode processes depending on the lamellar structure of the metal. The detailed picture of this phenomena must still be cleared up. There are 8 figures, and 6 references, 1 of which is Slavic.

The Effect of Gelatin on the Formation of Electrolytic Copper Deposits

76-12-18/27

SUBMITTED: October 4, 1956

AVAILABLE: Library of Congress

Card 4/4

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SOV/81-59-10-35260

18.7400

Translation from: Referativnyy zhurnal. Khimiya, 1959, Nr 10, p 272 (USSR)

AUTHOR: Samartsev, A.G.

TITLE: Protective Coatings of Optical-Mechanical Devices Designed for Work Under Conditions of Tropical Climate

PERIODICAL: Sb. Kom-t po korrozii i zashchite metallov Vses. sov. nauchno-tekhn. o-v, 1958, Nr 3, pp 68-74

ABSTRACT: Tests of construction materials applied in optical apparatus building, which have been carried out under tropical conditions, have shown that carbon steel without protective coatings is completely unsuitable, EI-474 steel and several other steels are sufficiently resistant if their surfaces are polished; Zn-alloys and Zn- and Cd-coatings are not recommended for use. At long-lasting tests under conditions of tropical climate, on the surface of Cu and its alloys a dark film is formed, for the protection of Cu and its alloys Ni and Cr-coatings are employed. The protection of Al and its alloys is carried out by anode oxidation and chrome-plating with an intermediate Ni-layer. Thin, transparent, two-layer oxide coatings on Al make it possible to prepare mirrors with a reflection coefficient of 95 - 97%. The application

Card 1/2

Protective Coatings of Optical-Mechanical Devices Designed for Work Under Conditions of Tropical Climate

of Silumin casting is possible under the condition of impregnating it with bakelite varnish with preliminary evacuation, after which the usual varnish and paint coating is applied. The blackening of metals by the usual methods is not resistant in tropical climate, under these conditions the process of black nickel-plating has a great future.

V. Lukinskaya

AUTHORS: Samartsev, A. G., Levitina, E. I. 76-32-5-9/47

TITLE: The Cathodic Deposition of Molybdenum Sesquioxide (Katodnoye vydeleniye polutornoy okisi molibdena)

PERIODICAL: Zhurnal fizicheskoy khimii, 1958, Vol. 32, Nr 5, pp. 1023 - 1029 (USSR)

ABSTRACT: In the present work some characteristic features of the growth process of the cathode deposition of molybdenum sesquioxide, as well as the influence of the composition of the cathode surface, the acidity of the electrolyte and of other factors were investigated. The experiments were carried out with cathodes of various metals with on the one hand the weight of the formed precipitation and on the other hand the amount of formed hydrogen having been measured. Before the experiments the cathodes were either ground, immersed into 10% sulfuric acid at 65°C for 5 minutes (activated), or they were afterwards left in a 10% potassium bichromate solution at the boiling point for 30 minutes (passivated). The results of the experiments show that the weight increases more quickly in activated cathodes than in ground ones, while in the case of the passivated cathode a complete stoppage of the reduction process of

Card 1/3

hexavalent molybdenum ions takes place. The results of the investigations of the velocity of hydrogen formation show that the activated surfaces effect the least formation of hydrogen, while it is complete in the case of passivated surfaces and no molybdenum reduction takes place; also with the activated cathodes a gradual decrease of the formation of the molybdenum sesquioxide deposition was observed. The measurement of the change of cathode polarization also showed a different course of the potential of activated and passivated electrodes, from which fact can be concluded a different composition of the surfaces. Depositions with a greatest layer thickness were obtained with zinc cathodes and activated steel electrodes, with the same conditions of electrolysis prevailing. An essential influence on the formation of the deposition is exerted by the acidity of the solution, where with a decrease of the acidity an impedance and a subsequent standstill of the molybdenum reduction takes place. The increase of the current density effects an impedance of the formation of molybdenum sesquioxide which can be avoided by a rise of temperature, an increase of the concentration of the ammonium molybdate, or by the addition

of neutral conductive salts. It was found that the depositions show a different water content corresponding to the conditions of electrolysis, and that they have, besides, a special structure as interpreted from the mentioned microphotographs, which has fine cracks, which fact is explained by the separation of water. There are 7 figures and 7 references, 1 of which is Soviet.

SUBMITTED: November 9, 1956

1. Molybdenum oxide--Electrodeposition 2. Cathodes--Surface properties 3. Electrolytes--Properties

S/081/61/000/021/039/094
B101/B147

AUTHOR: Samartsev, A. G.

TITLE: Some problems of protecting manufactured goods against corrosion

PERIODICAL: Referativnyy zhurnal. Khimiya, no. 21, 1961, 257, abstract 21I139 (Sb. "Zashchita izdeliy ot vozdeystviya tropich. klimata", L., 1959, 3 - 11)

TEXT: Problems of protecting manufactured goods against corrosion in tropical climate are discussed in general. [Abstracter's note: Complete translation.]

Card 1/1

5 (4)

AUTHORS: Lyzlov, Yu. V., Samartsev, A. G. SOV/76-33-6-27/44

TITLE: Internal Stresses in Electrolytic Copper Deposits (Vnutrenniye napryazheniya v elektroliticheskikh osadkakh medi)

PERIODICAL: Zhurnal fizicheskoy khimii, 1959, Vol 33, Nr 6, pp 1345-1352 (USSR)

ABSTRACT: As in the electrolytic copper precipitation from acidified copper sulphate solutions there are no secondary processes (such as a generation of hydrogen), this process is particularly favorable for the investigation of the influences of internal stress by different admixtures to the solution. Internal stresses (IS) were investigated in copper deposits (D) obtained from common copper sulphate electrolytes, and with admixtures of thiocarbamide (I) and gelatin (II). The (IS) were measured by a "contractometer" (Ref 8). Preliminary tests showed that the smallest quantities of impurity in the copper sulphate exert a strong influence on the (IS) in the copper deposit (Table). The electrolytic (D), obtained from electrolytes without admixtures, have a compressing stress (CS) which decreases with a rise in temperature and a reduction in current density. The structural change of (D)

Card 1/3

into a disperse grain causes a rise in (IS). Admixtures of (I) and (II) to the electrolyte effect an increase in (IS) at small quantities, a reduction of (CS), and a conversion to tensile stresses (TS) at high quantities of admixtures. The changes of (IS) by admixtures of (I) and (II) are due to spatial changes in the structure of (D), i.e. to the formation of intermadiate layers which, by their increase in size, effect the (TS). As, during the elctrolysis, the area near the cathode becomes poorer in (I) and (II), an intermixture of the elctrolyte, an increase in temperature and a reduction of the current density favor a reduction of (CS) and an increase in (TS) in the (D); as these factors facilitate the access of (I) or (II) to the cathode. The so-called "leveling effect" of various electrolytes (Refs 17-21) is explained by the fact that near such spots where the diffusion is impeded (cracks, joints, indentation in the cathode surface) the solution also quickly becomes poorer in (I) and (II), whereby the current density rises and the metal deposition increases in these spots. There are 7 figures, 1 table, and 21 references, 8 of which are Soviet.

Internal Stresses in Electrolytic Copper Deposits SOV/76-33-6-27/44

SUBMITTED: November 29, 1957

Card 3/3

ANISIMOV, A.F.; SAMARSKIY, A.G.; ALEKSEYEV, Yu.A.

Automatic control of the catalyst circulation system in a catalyst cracking unit. Khim.i tekh.topl. i masel 5 no.6:1-6 Je '60. (MIRA 13:7)

1. Spetsial'noye konstruktorskoye byuro po avtomatike v neftepererabotke i proizvodstve iskusstvennogo zhidkogo topliva.
(Cracking process) (Catalysis) (Automatic control)

S/080/60/033/005/005/008

AUTHORS: Burdina, S.M., Samartsev, A.G.

TITLE: The Production of Galvanic Coatings on Titanium

PERIODICAL: Zhurnal prikladnoy khimii, 1960, Vol 33, No 5, pp 1141 - 1146

TEXT: The application of galvanic coatings on titanium in order to improve the surface properties of the metal and the outer aspect of the articles is difficult due to the presence of various titanium oxides on the metal surface. Methods for obtaining chromium, copper and nickel coatings with a good adhesion to the metal surface were investigated. Commercial pure titanium prepared by melting degasified titanium sponge was used in the experiments. For obtaining chromium coatings two electrolytes were used: 1. CrO_3 300 g/l, H_2SO_4 4 g/l, D_c = 95 - 100 a/dm^2, t = 80 - 83°C. 2. CrO_3 150 g/l, H_2SO_4 2 g/l, D_c = 95 a/dm^2, t = 90°C. Chrome-plating was carried out in two stages: first a deposit of 7 - 10 μ was applied, then the chrome-plated sample was subjected to thermal treatment in the vacuum, after which the final chrome-plating was made. The total thickness of the chromium deposit was 110 - 120 μ. Preliminary treatment in solutions of hydrochloric-acid showed

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good results. Prior to chrome-plating the treatment in 30 - 35% hydrochloric acid at 48 - 53°C in the course of 50 - 60 min produces satisfactory results. The electrolyte for copper-plating had the following composition (g/l): $CuSO_4 \cdot 5H_2O$ 250, H_2SO_4 75; for nickel-plating (g/l): $NiSO_4 \cdot 7H_2O$ 140-200, $Na_2SO_4 \cdot 10H_2O$ 80-160, NaCl 5-10, H_3BO_3 20-30. In the case of thermal treatment copper coatings 150 μ thick with good adhesion were obtained. There are 2 graphs, 3 photographs, 1 table and 7 references: 2 Soviet, 4 English and 1 Japanese.

SUBMITTED: May 4, 1959

✓

Card 2/2

S/076/61/035/004/011/018
B106/B201

16 7400 1087 also 1043, 1208

AUTHORS: Samartsev, A.G., and Andreyeva, N. V.

TITLE: The formation process of precipitates of "black nickel"

PERIODICAL: Zhurnal fizicheskoy khimii, v. 35, no. 4, 1961, 892 - 899

TEXT: "Black nickel" is the designation for black precipitates of a complicated composition (16-60% nickel, 7-45% zinc, 8-15% sulfur, 10-28% carbon, hydrogen, and oxygen), which are formed on the cathode in the electrolysis of solutions containing nickel-, zinc-, and ammonium salts, and rhodanate ions. Great practical importance is attached to this "black nickel", as it can be deposited on various metals as a compact jet-black coating. In continuation of previous papers on the solution of practical problems (Ref. 3: Chernoye nikelirovaniye, informatsionno-tekhnicheskiy listok No. 106 (679), LDNTP, L., 1954; Ref. 4: Optiko-mekhanicheskaya promyshlennost', No. 3, 65, 1957), new data are offered here regarding the formation process of "black nickel". The electrolyte solution contained 50 g/l $NiSO_4 \cdot 7H_2O$, 25 g/l $ZnSO_4 \cdot 7H_2O$, 32 g/l KCNS, and 15 g/l $(NH_4)_2SO_4$, and had a pH 5. The cathode was a 6.4 cm^2 steel sheet, the rear side of

Card 1/5

The formation process of ...

which was insulated by celluloid lacquer. The experiments were performed at $20\pm0.2^{\circ}C$, and the cathode potential was measured by the conventional compensation method 5 minutes after adjusting the current. Results: The main characteristic feature of galvanic precipitates of "black nickel" consists in that they contain only a relatively small part of free nickel metal, distributed as very small, separate grains in the mass of the products of secondary electrode reactions. The precipitate exhibits electrical conductivity which is explained by the semiconductor properties of zinc sulfide and hydrated zinc oxide, which constitute the main components of the products of secondary electrode reactions. The color of "black nickel" is not caused by the content of dark-colored compounds, but is due to the structural characteristics of the precipitate. The black precipitate is formed after an abrupt rise of cathode polarization, not due to reaching the limiting current, but by a passivation of the cathode surface. This is also proved by the fact that uniform bright nickel precipitates were obtained in a wide range of current densities in experiments with solutions containing only nickel- and ammonium salts. In this case no abrupt change took place in the cathode polarization. An

The formation process of ...

abrupt rise of polarization, however, occurred already at low current densities, if small amounts of a zinc salt were added. Immediately after this, the nickel deposition was reduced, and the hydrogen separation increased. These results are indicative of the fact that the cathode surface is passivated by a layer of hydrated zinc oxide, which is an obstacle to the further growth of pure nickel grains. At the same time also the zinc sulfide resulting from the decomposition of rhodanate present in the solution is precipitated. The abrupt rise of cathode polarization leads to a stronger decomposition of rhodanate and thus to the enrichment of the precipitate with zinc sulfide. Because of its better electrical conductivity, the zinc sulfide attenuates the inhibiting effect of hydrated zinc oxide upon the discharge of nickel ions. The rhodanate ions contained in the electrolyte reduce the cathode polarization, and thus the potential jump, considerably. Ammonium ions, owing to their buffer action and their ability to form stable complex compounds, uphold the deposition of the passivating layer of hydrated zinc oxide at the cathode. In the absence of the ammonium salt the cathode is much less passivated, and more pure nickel is deposited. The acidity of the electrolyte also has an effect upon the deposition of "black nickel": no secondary electrode reactions, and therefore, no black preci-

Card 3/5

pitates, either, appear in strongly acid solutions. Most probably, the processes taking place in the formation of the black precipitates at the cathode have a periodic character. Formation and development of nickel crystals alternate continuously, in every point of the cathode surface, with the deposition of secondary electrolysis products on these crystals. The chemical analysis of the precipitates was made by the collaborators of the Leningradskiy tekhnologicheskiy institut im. Lensoveta (Leningrad Institute of Technology imeni Lensovet) A. D. Miller and R. I. Libina. There are 7 figures, 1 table, and 11 references: 3 Soviet-bloc and 8 non-Soviet-bloc. The three most recent references to English language publications read as follows: U.S. Bur. Stand. Techn. Pap., N 100; J. G. Poor, Metal Finishing, 694, 769, 1943; S. Glasstone, J. Chem. Soc., 641, 1927.

SUBMITTED: July 27, 1959

Card 4/5

S/080/61/034/011/016/020
D228/D301

AUTHORS: Burdina, S.M., and Samartsev, A.G.

TITLE: The nature and properties of the surface film formed on titanium during its etching in acids

PERIODICAL: Zhurnal prikladnoy khimii, v. 34, no. 11, 1961, 2566 - 2568

TEXT: In this work the aims of the authors were to ascertain the nature and certain properties of the surface film, formed on titanium during its etching in acid, and the conditions under which its disintegrates on being heated in a vacuum. Specimens of grade BT-1 (VT-1) metal with a round or square section were etched in 35 % HCl and 40 % H_2SO_4 at temperatures of 50° and 80° respectively, after which their surface layers were studied by electronographic and X-ray methods. Samples of metal with a natural oxide coating and powdered titanium hydride were similarly investigated for purposes of comparison. Examination of the roentgeno- and electronograms showed that the surface layer consists of titanium hydride;

Card 1/2

The nature and properties of ...

its color and thickness appear to depend on the nature and concentration of the acid and on the etching conditions. Thus, etching in HCl for 1 hr. gives a film with a thickness of 15 - 20 μ as compared with one of only 3 - 5 μ for metal etched in H_2SO_4 for the same period. The authors consider the formation and solution of the hydride - when hydrogen is evolved - to occur simultaneously, in consequence of which, the layer's thickness reaches a certain, constant, critical value. The hydride film may serve as a base for the electrolytic application of chromium, nickel, or copper coatings, but these latter do not possess adequate cohesion unless they receive further heat treatment. Subsequent tests - involving the heating for 1 hr. of titanium specimens which were first coated with chromium and processed with HCl for 1 hr at 50° - were carried out in order to establish the conditions necessary for the formation of a diffusion layer at the chromium-titanium boundary. According to the results the hydride decomposes into hydrogen and titanium at 300°, and a diffusion layer of sufficient thickness to be detected microscopically only develops at 700°. There are 2 figures and 5 references: 1 Soviet-bloc and 4 non-Soviet-bloc.
SUBMITTED: April 4, 1961
Card 2/2

L 53773-65 EWT(m)/EPF(c)/EWA(d)/EWP(t)/EWP(z)/EWP(b) MJW/JD/WB
ACCESSION NR: AP5014158 UR/0080/65/038/005/1033/1037
621.794+669.15

AUTHOR: Zelenova, A. T.; Samartsev, A. G.

TITLE: Effect of inhibitors on etching of 1Kh18N9T stainless steel with acid mixtures

SOURCE: Zhurnal prikladnoy khimii, v. 38, no. 5, 1965, 1033-1037

TOPIC TAGS: etching inhibitor, corrosion inhibitor, stainless steel, corrosion, steel

ABSTRACT: The effect of agar-agar, dextrin, gelatin, and joiner's glue on chemical etching of 1Kh18N9T stainless steel in aqueous solutions of HNO_3, HCl, and H_2SO_4 was studied. The etching tests were carried out for 10 minutes at 70±0.5°C. The rate of dissolution of the metal was measured gravimetrically and the polished steel surface was examined visually and with an FM-56 photometer. The surface microstructure was examined with an electron microscope. The addition of agar-agar or dextrin into the etching fluid does not affect either the rate of steel dissolution or the quality of the steel surface, and no surface smoothing is observed.

Card 1/2

L 53773-65

ACCESSION NR: AP5014153

Addition of joiner's glue or gelatin into the etching fluid reduces the rate of steel dissolution and smooths the surface somewhat but does not brighten the surface. The steel surface polishing is improved by adding certain acidic dyestuffs to the etching fluid. This improvement in polishing is also retained after addition to the etching fluid of colloidal dissolving inhibitors such as joiner's glue and gelatin. Apparently the acidic dyestuffs facilitate formation of a passive layer on the steel surface and thus create conditions for slow dissolution of all the steel surface in a highly uniform manner. Orig. art. has: 6 figures.

ASSOCIATION: none

SUBMITTED: 31Jun63 ENCL: 00 SUB CODE: MM, IE

NO REF SOV: 002 OTHER: 004

Card 2/2

GALANOV, I.G., otv. red.; MATLAKHOV, S.G., otv. red.; POLESIN, Ya.L., red.; BOGOMOLOV, A.I., red.; ZHELEZNYAKOVA, M.A., red.; ZHIDOVETSKIY, B.V., red.; ZIL'BERSHTEYN, I.A., red.; KANER, I.Ye., red.; KLYUYEVA, Ye.P., red.; KOZLOVA, Ye.I., red.; MAKAROV, A.D., red.; SAMARTSEV, A.I., red.; SOLOPKO, A.P., red.; TIKHONOV, V.A., red.; VOLKOVA, V.A., ved. red.

[Safety regulations in the gas industry; regulations obligatory for all ministries, departments, and organizations] Pravila bezopasnosti v gazovom khoziaistve; pravila obiazatel'ny dlia vsekh ministerstv, vedomstv i organizatsii. Perer. i dop. izd. Moskva, Nedra, 1965. 143 p. (MIRA 18:3)

1. Russia (1917- R.S.F.S.R.) Gosudarstvennyy komitet po nadzoru za bezopasnym vedeniem rabot v promyshlennosti i gornomu nadzoru.

SAMARTSEV, A.R.

"Oxide Coations on Metals", Isd. AN SSSR (Transactions of the USSR Academy of Sciences) (1944).

"Research in Corrision of Metals (Isskedovaniya Po Korrosii Metallov)"
Published by * Inst. of Physical Chemistry, USSR Academy of Sciences, Moscow-1951.
Translation---AIC-79062-D
F-TS-8030.A/V.

SAMARTSEV, A.Ya. (g. Penza)

A green corridor. Put' i put. khoz. no.1:11-13 Ja '57. (MLRA 10:4)

1. Nachal'nik Penzanskoy distantsii zashchitnykh lesonasazhdeniy.
(Penza Province--Railroads--Snow protection and removal)
(Windbreaks, shelterbelts, etc.)

SAMARTSEV, A.Ya.

Mechanization of tree planting operations for snow protection.
Put'i put.khoz. 4 no.7:40-41 Jl 60. (MIRA 13:7)

1. Nachal'nik distantsii zashchitnykh lesonasazhdeniy, g.Penza.
(Railroads--Snow protection and removal)
(Tree planting)

SAMARTSEV, Aleksandr Yakovlevich; BANNIKOV, P., red.; VORONKOVA, Ye., tekhn. red.

[Green shelterbelts for roads] Dorogam - zelenye zaslony. Penza, Penzenskoe knizhnoe izd-vo, 1961. 94 p. (MIRA 14:11)

1. Nachal'nik Penzenskoy distantsii zashchitnykh lesonasazhdeniy Kuybyshevskoy zheleznoy dorogi (for Samartsev).
(Roads) (Windbreaks, shelterbelts, etc.)

SAMARTSEV, A. Ya., zasluzhennyy ratsionalizator RSFSR

Complete mechanization of operations in improvement felling. Put' i put.khoz. 8 no.8:43-44 '64. (MIRA 17:9)

1. Nachal'nik distantsii zashchitnykh lesonasazhdeniy, stantsiya Penza, Kuybyshevskoy dorogi.

ZHAKSYBAYEV, N.; FOMENKO, V.D.; ANTONOV, V.P.; SAMARTSEV, I.A.; VASIL'YEV, B.F.; YAGODNITSYN, M.A.; VENGER, M.S.

Inadequate methods of waste water analysis are retarding the improvement of the sanitary condition of reservoirs. TSvet. met. 35 no.3:86-87 Mr '62. (MIRA 15:4)

1. Direktor Zyryanovskogo svintsovogo kombinata (for Zhaksybayev). 2. Sekretar' partiynogo komiteta Zyryanovskogo svintsovogo kombinata (for Fomenko). 3. Nachal'nik obogatitel'noy fabriki Zyryanovskogo svintsovogo kombinata (for Antonov). 4. Nachal'nik tsentral'noy khimicheskoy laboratorii Zyryanovskogo svintsovogo kombinata (for Samartsev). 5. Nachal'nik byuro stochnykh vod Zyryanovskogo svintsovogo kombinata (for Vasil'yev). 6. Rukovoditel' metodicheskoy gruppy khimicheskoy laboratorii Zyryanovskogo svintsovogo kombinata (for Yagodnitsyn). 7. Gosudarstvennyy sanitarnyy inspektor po promyshlennoy gigiyene Vostochno-Kazakhstanskoy sanitarnoy epidemiologicheskoy stantsii (for Venger).

(Water--Analysis) (Reservoirs)

SAMARTSEV, I.T.

Creating album-collections of rocks and minerals. Razved. i okh. nedr. 30 no.5:48 My '64. (MIRA 17:10)

1. Berezovskiy rudnik im. S.M. Kirova, Srednyy Ural.

SAMOKHIN, A.F., dotsent, kand.tekhn.nauk; SAMARTSEV, L.G., red.;
POPOVA, N.A., tekhn.red.

[The river Don and its tributaries; popular science essay]
Reka Don i ee pritoki; nauchno-populiarnyi ocherk. Rostov-na-Donu. Izd-vo Rostovskogo univ., 1958. 117 p. (MIRA 12:8)
(Don River)

5.3610

78269
SOV/79-30-3-17/69

AUTHORS: Ogloblin, K. A., Samartsev, M. A

TITLE: Reaction of Isobutylene Nitrosochloride With Amines. Synthesis of α-Aminoaldehydes

PERIODICAL: Zhurnal obshchey khimii, 1960, Vol 30, Nr 3, pp 805-820 (USSR)

ABSTRACT: Isobutylene nitrosochloride was reacted with methyl-, ethyl-, n-propyl-, n-butylamine, 2-aminobutane, 2-aminohexane, benzylamine, dimethyl- and diethylamine.

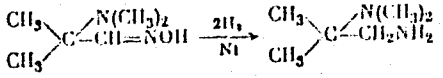
α-Aminoaldoximes and their salts were the main reaction products. The general scheme of the reaction is:

$$(C_4H_8NOCl)_2 + 2NHRR' \longrightarrow 2\ \begin{matrix} CH_3 \\ CH_3 \end{matrix}\!\!>\!C\!<\!\begin{matrix} NRR' \cdot HCl \\ CH{=}NOH \end{matrix}$$

The physical constants of the obtained α-aminoaldoximes are shown in Table 1. Aqueous and alcoholic solutions of α-aminoaldoximes produce a color reaction with salts of heavy metals. The presence of the secondary

Card 1/9

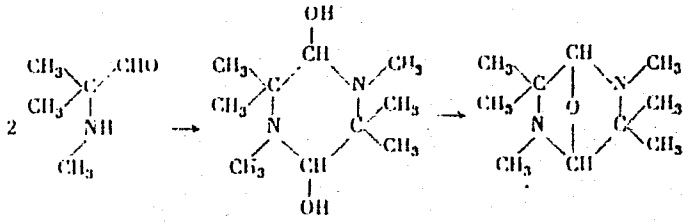
amino group in the reaction products of primary amines was confirmed by formation of nitrosoamines in reaction of α-aminoaldoximes with nitrous acid. The obtained oximes can be reduced to diamines over skeletal nickel in alcohol:



To avoid formation of oximes during the alkalization of the hydrolysis products of aminoaldoximes, sodium nitrite was introduced into the solution to decompose hydroxylamine. Aminoaldehydes were extracted with ether. The yield and physical constants of the obtained aldehydes are shown in Table 2. Compound (X) was not separated, but two corresponding dimers were obtained ((XVIII), mp 39.5-41° and (XIX), bp 77.5-79.5° (13 mm), n_D^{20} 1.4571).

Reaction of Isobutylene Nitrosochloride With Amines. Synthesis of α-Amino-aldehydes

78263
SOV/79-30-3-17/69



(X) (XVIII) (XIX)

Aminoaldehydes (XI), (XII), and (XIII) were obtained in monomer form in low yields. The basic products in this case were oxides (XX), bp 42-43°; (XXI), mp 178-178.5°; and (XXII) formed as a result of removal of water from compound (A).

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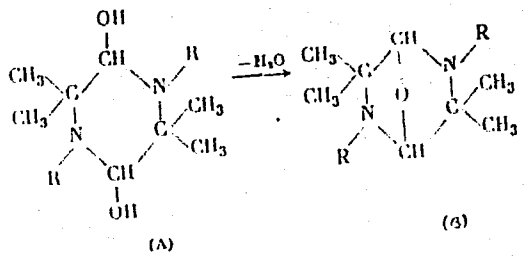
Reaction of Isobutylene Nitrosochloride With Amines. Synthesis of α-Amino-aldehydes

78263
SOV/79-30-3-17/69



(A) (B)

Dimers (XIX)-(XXII) are stable in organic solvents, but in an aqueous acidified medium they are present, at least partially, in the form of monomolecular aminoaldehydes. The reaction of dimer (XXI) with an alcoholic solution of NH_2OH; HCl yields the hydrochloride of aminoaldoxime (III). The majority of dimers reduce both Tollen's and Fehling's agent. On the basis of this, it is assumed that there is an equilibrium between the monomer and dimer forms of α-aminoaldehydes.

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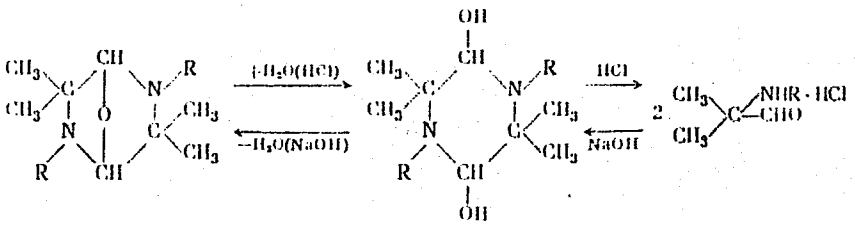
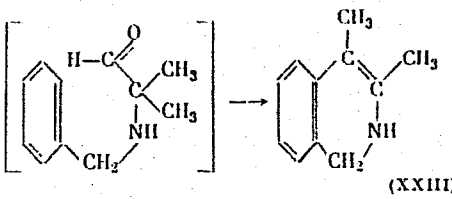
Reaction of Isobutylene Nitrosochloride With Amines. Synthesis of α-Amino-aldehydes

7826
SOV/79-30-3-17/69



Heating the hydrolysis product of (VII) with concentrated H_2SO_4 at 180-220° yields a small amount of compound (XXIII), mp of its picrate, 212-213°.



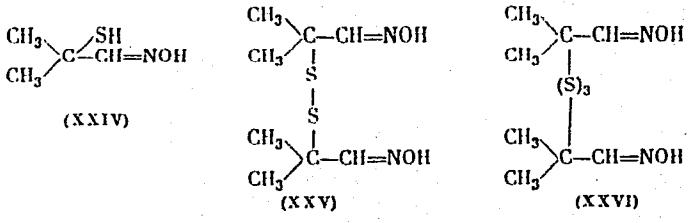
(XXIII)

Card 5/9

Reaction of Isobutylene Nitrosochloride With Amines. Synthesis of α-Amino-aldehydes

78263
SOV/79-30-3-17/69

The reaction of isobutylene nitrosochloride with NaHS yields compounds (XXV) (yield 10%), mp 131.5-132°; and (XXVI) (yield 16%), mp 149.5-150.5°, instead of the expected (XXIV).



There are 1 figure; 2 tables; and 24 references, 7 Soviet, 5 U.S., 3 U.K., 7 German, 2 French. The 5 U.S. references are: Balenovic, K., Bregant, N., Cerar, D., Fles, D., J. Org. Chem., 18, 297 (1953); U.S. Patent 2494859; Mellor, J., Inorg. σ Theor. Chem., 8, 289 (1947); Inorganic Synthesis, N.Y., 4,48 (1953); Iffland, C., Teh-Fu-Uen, J. Am. Chem. Soc., 76, 4180 (1954).

Card 6/9

(Key to Table 1 on Card 9, 9)

Table 1. Reaction products of isobutylene nitrosochloride with amines.

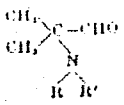
1	$(CH_3)_2C(Cl)CH(NOH)NRR'$		2	% N		5		6
	R	R'		3	4	3	4	
(I)	CH_3	H	98—99°	24.35	24.12	115.1, 116.6	116.1	81
(II)	C_2H_5	H	108—108.5	21.02	21.53	129.5, 130.4	130.1	68
(III)	n.-C_3H_7	H	78.5—79.5	19.59, 19.57	19.43	143.1, 143.2	144.2	82
(IV)	n.-C_4H_9	H	70—71	—	—	158, 158.3	158.2	67
(V)	$CH(CH_3)C_2H_5$	H	48—49	17.39, 17.48	17.71	158.2, 158.4	158.2	59
(VI)	$CH(CH_3)C_4H_9$	H	51—52	14.87	15.04	185.2, 186.3	186.3	59
(VII)	$CH_2C_6H_5$	H	126—127	14.36, 14.69	14.58	192.0, 192.6	192.3	53
(VIII)	CH_3	CH_3	95—95.5	21.33, 21.61	21.53	130.4, 131.1	130.1	58
(IX)	C_2H_5	C_2H_5	68—69	17.65, 17.72	17.71	156.1, 159.2	158.2	70

Card 7/9

(Key to Table 2 on Card 9/9)

78263 SOV/79-30-3-17/69

Table 2



2	R	R'	3	n_D^{20}	d_4^{20}	MR$_D$		6		7	
						4	5	4	5	8	9
(X)	CH_3	H	—	—	—	—	—	—	—	—	60
(XI)	C_2H_5	H	40°(29)	1.4532	0.9398	33.16	33.44	109.3	115.1	8	18
(XII)	n.-C_3H_7	H	62—62.5 (23)	1.4561	—	—	—	129.1, 130.5	129.1	2	57
(XIII)	n.-C_4H_9	H	58—62 (5)	1.4583	0.9282	42.12	42.72	140.9, 142.8	143.2	15	32
(XIV)	$CH(CH_3)(C_2H_5)$	H	65 (18)	1.4309	0.8659	42.81	42.56	146.1, 147.0	143.2	68	—
(XV)	$CH(CH_3)(C_4H_9)$	H	70 (6)	1.4364	0.8601	52.08	51.99	171.1, 172.0	171.2	33	—
(XVI)	CH_3	CH_3	57—58 (54)	1.4230	0.8817	33.27	33.58	118.5, 119.2	115.1	51	—
(XVII)	C_2H_5	C_2H_5	59.5 (18)	1.4311	0.8653	42.85	42.87	143.7, 144.2	143.2	67	—

8/9

Reaction of Isobutylene Nitrosochloride With Amines. Synthesis of -Amino-aldehydes

78263
SOV/79-30-3-17/69

Key to Table 1. (1) Nr of compound; (2) mp; (3) found; (4) calculated; (5) neutral equivalent; (6) yield (in %), based on nitrosochloride.

Key to Table 2. (1) α-Aminoaldehydes; (2) Nr of compound; (3) bp (pressure in mm); (4) found; (5) calculated; (6) neutral equivalent; (7) yield (in %); (8) aldehyde; (9) dimer.

ASSOCIATION: Leningrad State University (Leningradskiy gosudarstvennyy universitet)

SUBMITTED: March 31, 1959

Card 9/9

SAMARTSEV, M.A.; OGLOBLIN, K.A.

Interaction of nitrosyl chloride with unsaturated compounds. Part 17: Cis-trans isomerism of dimers of aliphatic chloronitroso compounds. Zhur. org. khim. 1 no.1:31-37 Ja '65. (MIRA 18:5)

1. Leningradskiy gosudarstvennyy universitet.

OGLOBLIN, K.A.; SAMARTSEV, M.A.

Reaction of nitrosyl chloride with unsaturated hydrocarbons. Part 8: Reaction with 2-butene. Zhur.ob.khim. 33 no.10:3257-3262 O '63. (MIRA 16:11)

1. Leningradskiy gosudarstvennyy universitet.

SAMARTSEV, M.A.; OGLOBLIN, K.A.

Preparation of cis- and trans-isomers of dimeric chloronitroso compounds. Zhur.ob.khim. 34 no.1:361 Ja '64. (MIRA 17:3)

1. Leningradskiy gosudarstvennyy universitet.

OGLOBLIN, K.A.; SAMARTSEV, M.A.

Interaction of nitrosyl chloride with unsaturated hydrocarbons. Part 12: Reaction with 2-pentene. Zhur. ob. khim. 34 no. 5, 1525-1530 My '64.

Interaction of nitrosyl chloride with unsaturated hydrocarbons. Part 13: Reaction with 2,2-dimethyl-3-pentene. Ibid.:1530-1535 (MIRA 17:7)

1. Leningradskiy gosudarstvennyy universitet.

1. SAMARTSEV, M. I.

2. USSR (600)

4. Swine--Feeding and Feeding Stuffs

7. Using ground hay in feeding swine for bacon and lard, Sots. zhiv., 14, No. 12, 1952.

9. Monthly List of Russian Accessions, Library of Congress, April, 1953, Uncl.

SAMARTSEV, V.N.

Tends in further exploration of the terrigenous Devonian in the Klenovka uplifts of Volgograd Province. Neftegaz. geol. i geof. no.5:27-30 '65. (MIRA 18:7)

1. Vsesoyuznyy neftegazovyy nauchno-issledovatel'skiy institut.

SAMARTSEV, V.N.

Formation of oil pools in the Stalinogorsk horizon of the Klenovka field. Geol. nefti 2 no.6:15-20 Je '58. (MIRA 11:7)
(Tersa Valley--Petroleum geology)

SAMARTSEV, V.N.

Effect of geological conditions on the production of an individual pool in a multizone reservoir. Geol.nefti i gaza 4 no.7:12-14 Je '60. (MIRA 13:8)

1. Vsesoyuznyy neftegazovyy nauchno-issledovatel'skiy institut.
(Stalingrad Province--Oil fields--Product on methods)

SAMARTSEV, V.N.

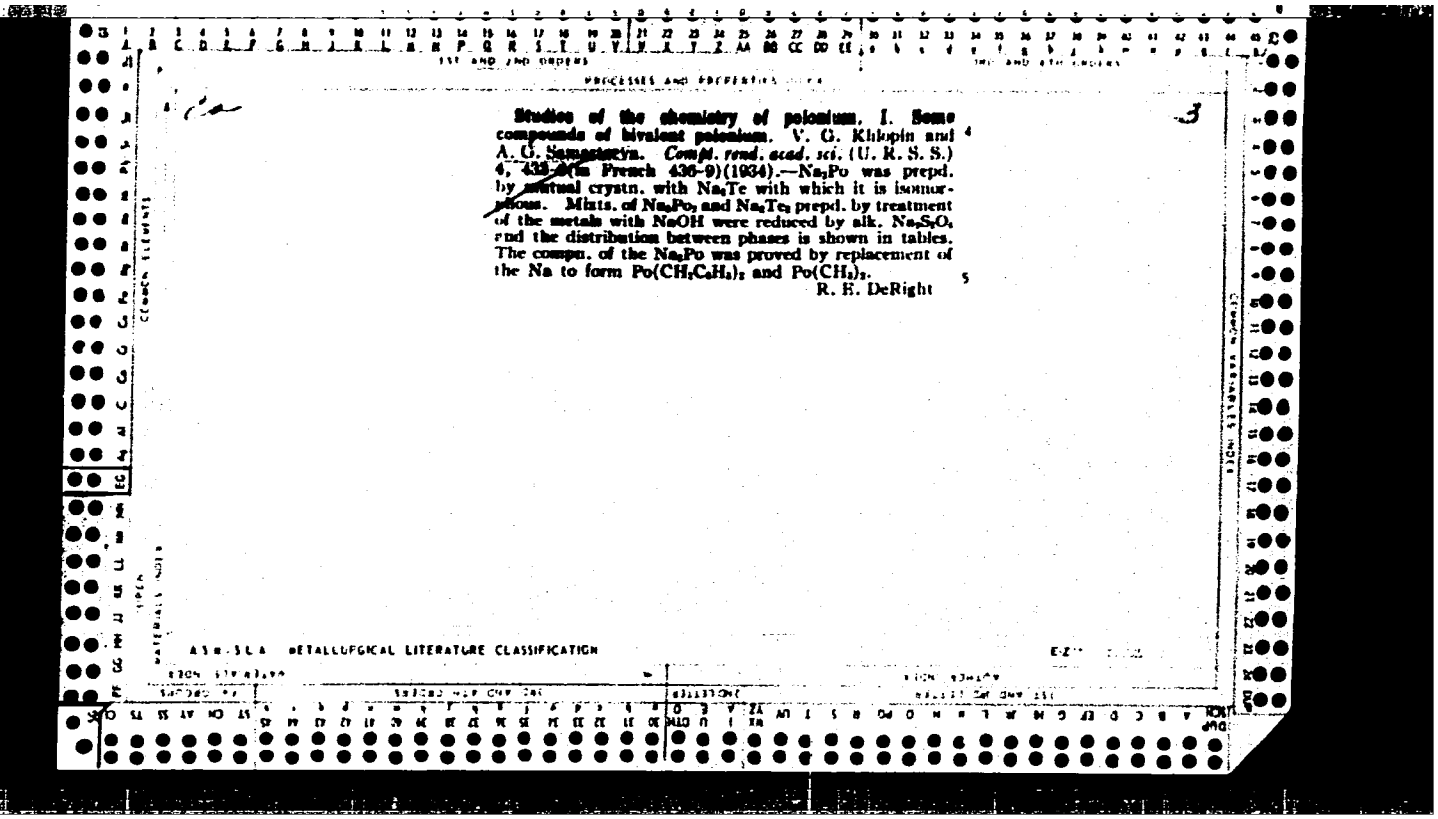
Prospecting for oil and gas pools and the efficiency of developing an oil fringe. Razved. i okh. nedr 27 no.10:29-31 O '61. (MIRA 15:3)

1. Vsesoyuznyy neftegazovyy nauchno-issledovatel'skiy institut.
(Oil reservoir engineering)

SAMARTSEV, Ye.

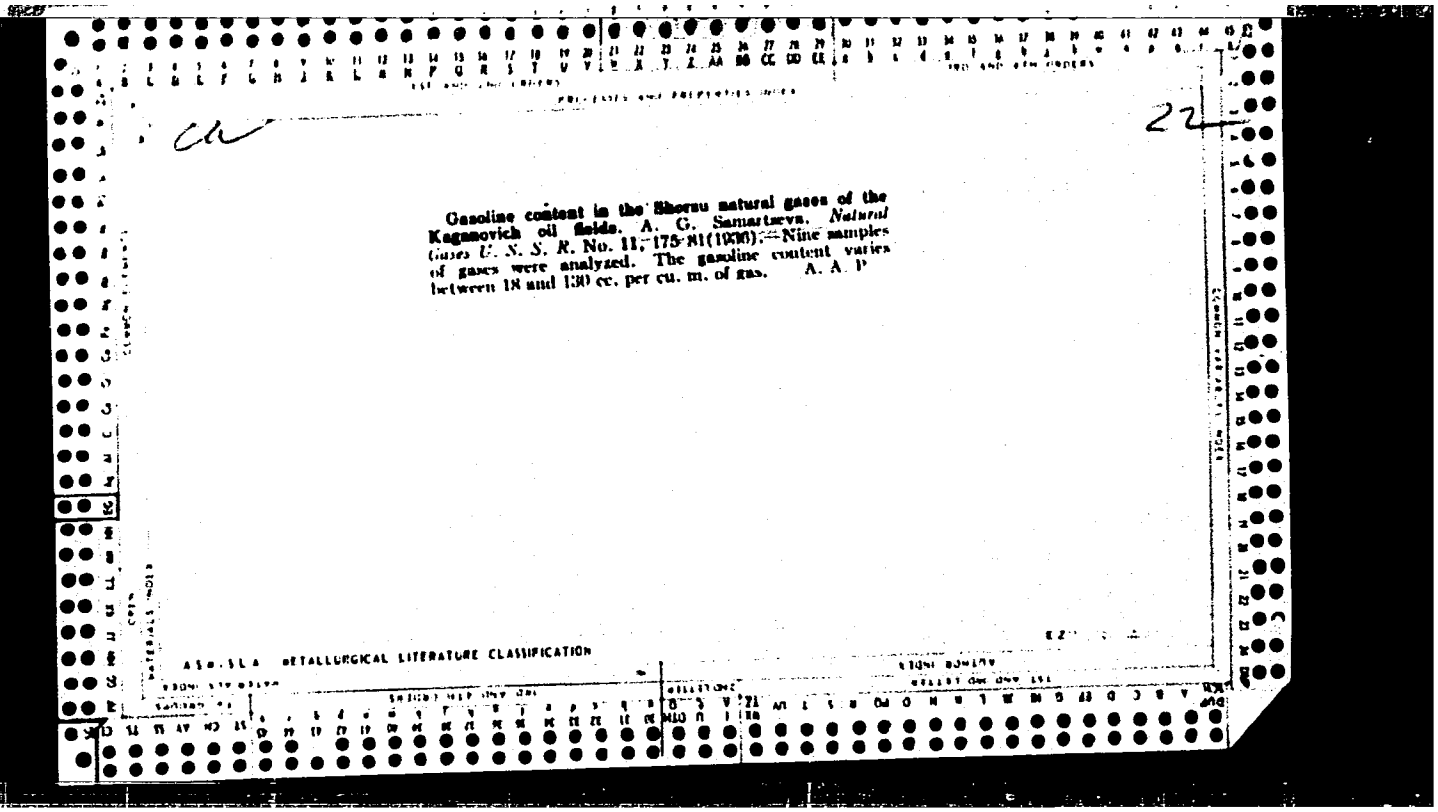
Our appeal to scientists and engineers. NTO no.6:23-25 Je '59.
(MIRA 12:9)

1. Sekretar' Kuybyshevskogo obkoma Vsesoyuznogo Leninskogo Kommunisticheskogo soyuza molodezhi (VLKSM).
(Socialist competition)



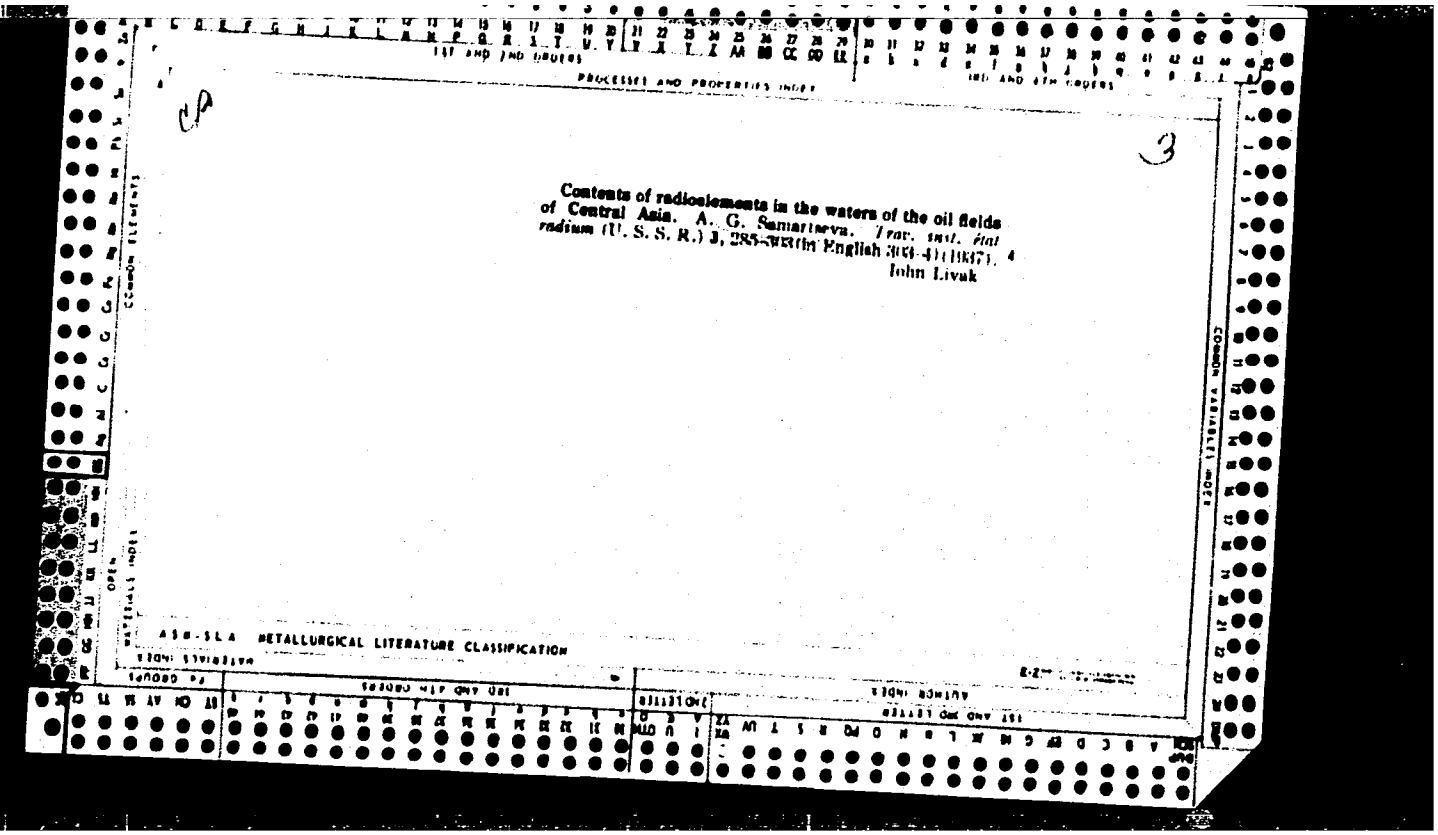
Studies of the chemistry of polonium. I. Some compounds of bivalent polonium. V. G. Khlopin and A. G. Samartseva. *Compt. rend. acad. sci.* (U. R. S. S.) 4, 435-9(in French 436-9)(1934).—Na_2Po was prepd. by mutual crystn. with Na_2Te with which it is isomorphous. Mixts. of Na_2Po_2 and Na_2Te_2 prepd. by treatment of the metals with NaOH were reduced by alk. $Na_2S_2O_4$ and the distribution between phases is shown in tables. The compn. of the Na_2Po was proved by replacement of the Na to form $Po(CH_2C_6H_5)_2$ and $Po(CH_3)_2$.

R. E. DeRight

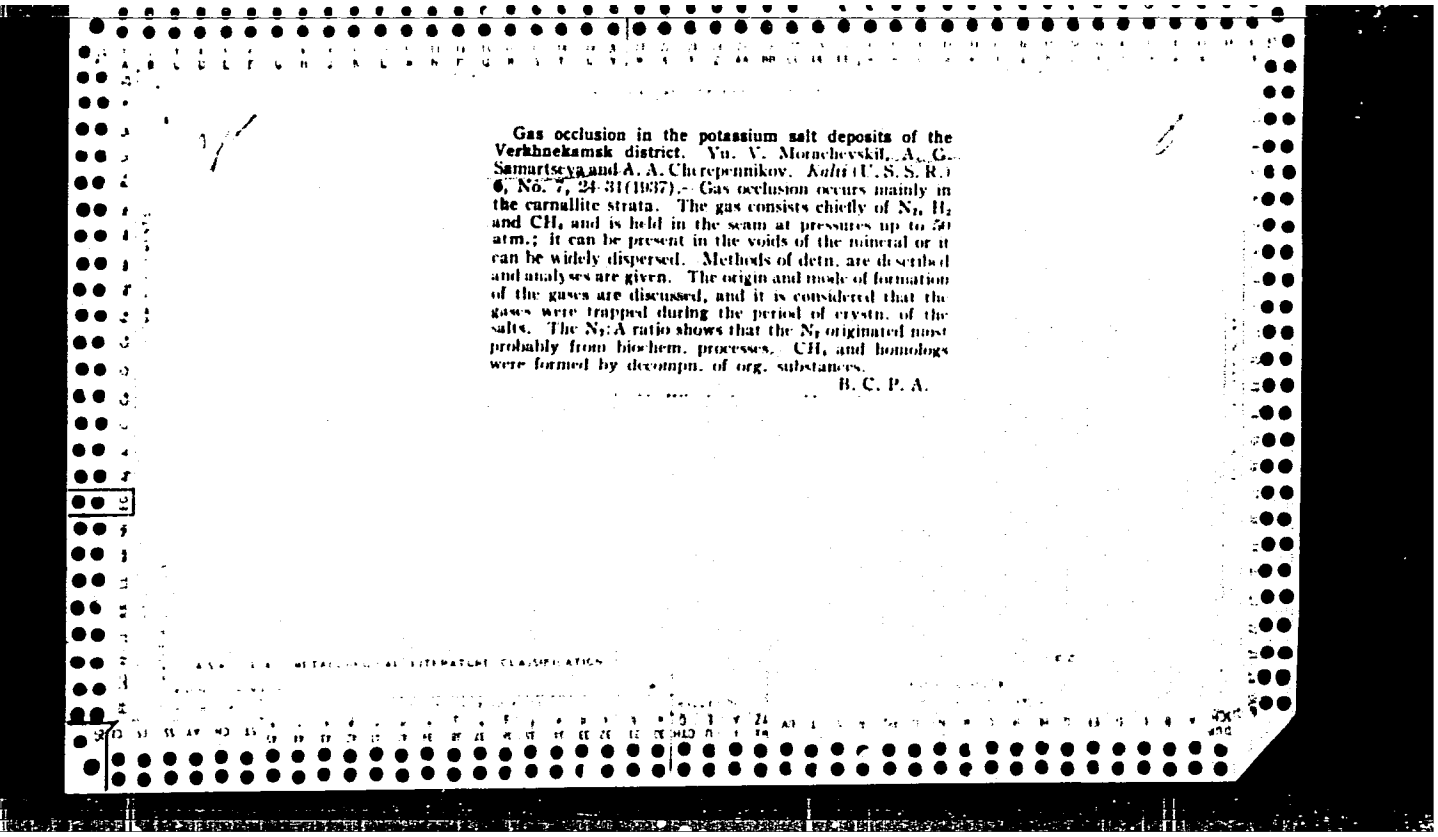


Gasoline content in the Shorsu natural gases of the Kaganovich oil fields. A. G. Samartsevs. *Natural Gases U. S. S. R.* No. 11, 175-81(1936).—Nine samples of gases were analyzed. The gasoline content varies between 18 and 130 cc. per cu. m. of gas. A. A. P

ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION

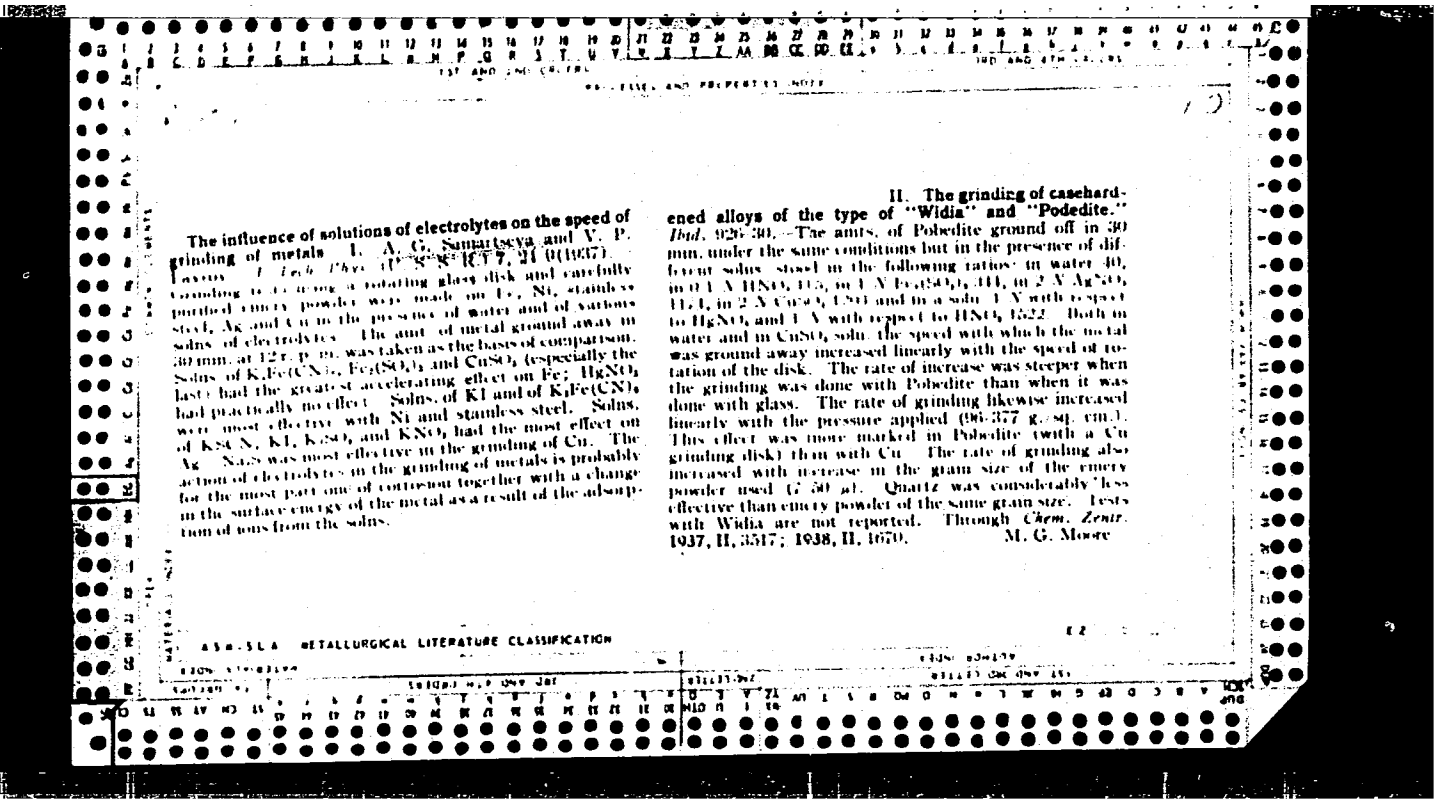


Contents of radioelements in the waters of the oil fields of Central Asia. A. G. Samartseva. *Trans. instr. fiziol. radium* (U. S. S. R.) 3, 285–[illegible] (in English [illegible]).
John Livak



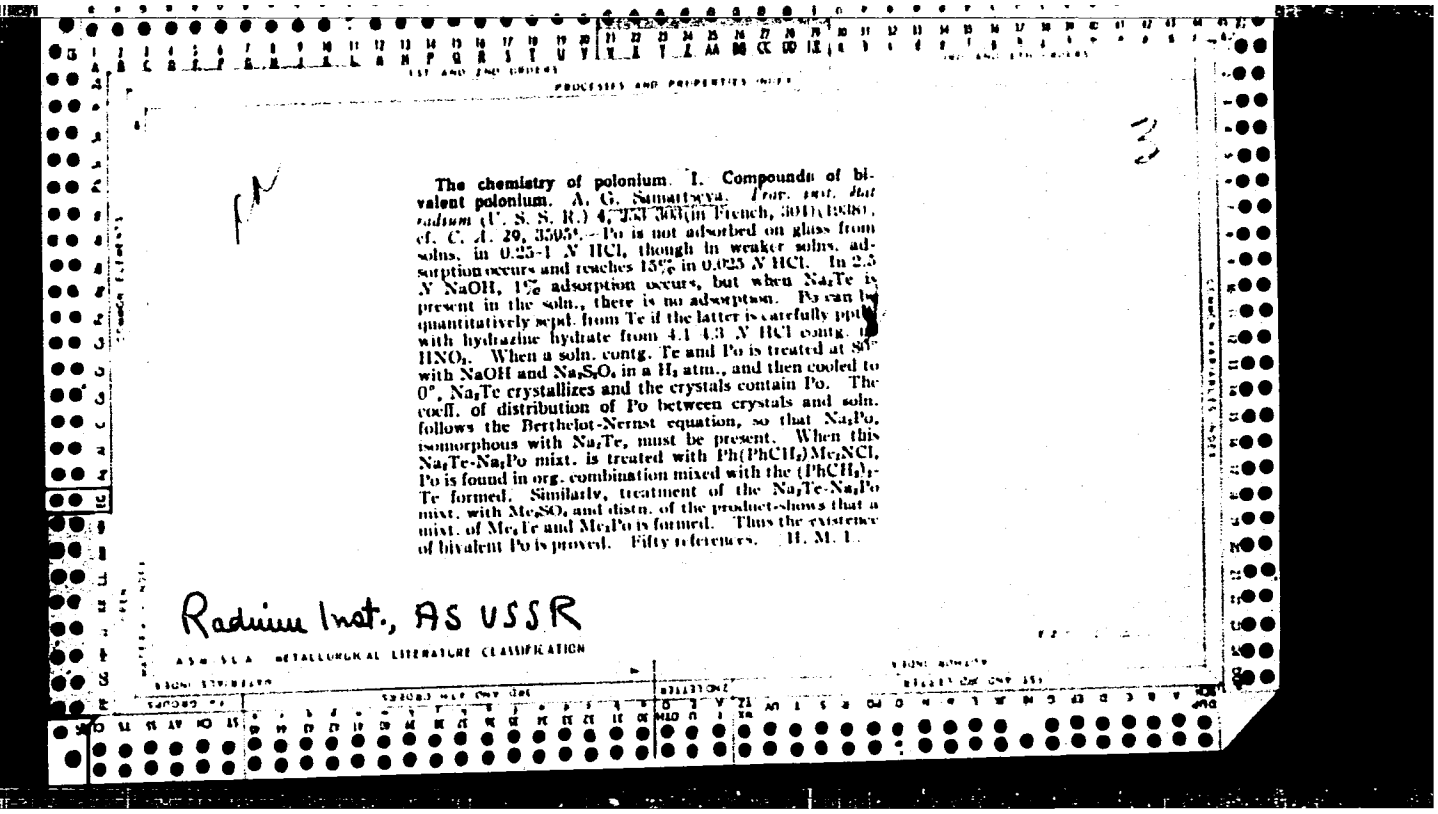
Gas occlusion in the potassium salt deposits of the Verkhnekamsk district. Yu. V. Morachevskii, A. G. Samartseva and A. A. Cherepennikov. *Kalii* (U. S. S. R.) 6, No. 7, 24-31(1937).- Gas occlusion occurs mainly in the carnallite strata. The gas consists chiefly of N_2, H_2 and CH_4 and is held in the seam at pressures up to 50 atm.; it can be present in the voids of the mineral or it can be widely dispersed. Methods of detn. are described and analyses are given. The origin and mode of formation of the gases are discussed, and it is considered that the gases were trapped during the period of crystn. of the salts. The N_2:A ratio shows that the N_2 originated most probably from biochem. processes. CH_4 and homologs were formed by decompn. of org. substances.

B. C. P. A.



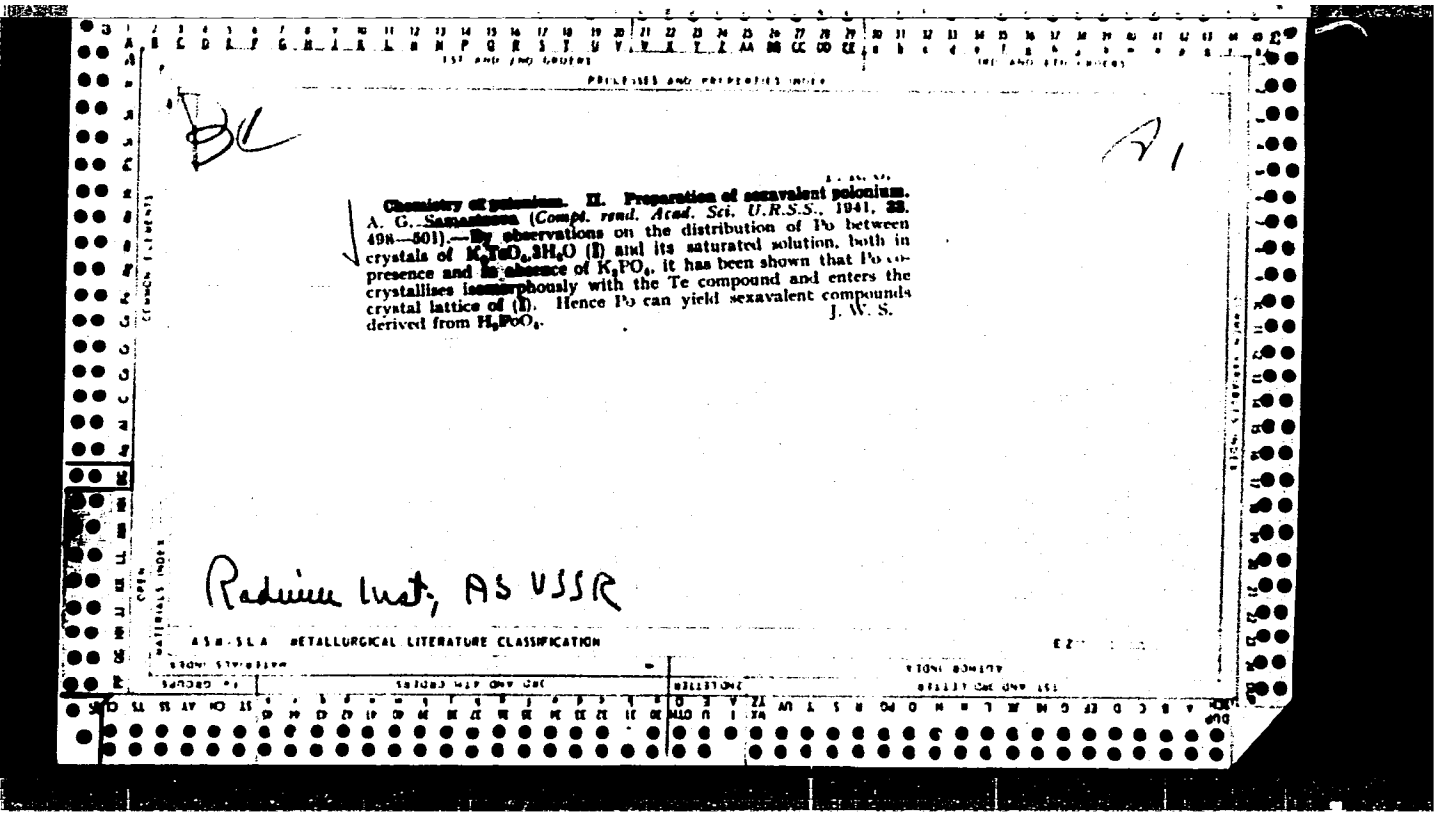
The influence of solutions of electrolytes on the speed of grinding of metals. I. A. G. Samartseva and V. P. [illegible]. *J. Tech. Phys.* (U.S.S.R.) 7, 21–9 (1937).—Tests of grinding on a rotating glass disk and carefully purified emery powder were made on Fe, Ni, stainless steel, Ag and Cu in the presence of water and of various solns. of electrolytes. The amt. of metal ground away in 30 min. at 12 r. p. m. was taken as the basis of comparison. Solns. of $K_3Fe(CN)_6$, $Fe_2(SO_4)_3$ and $CuSO_4$ (especially the last) had the greatest accelerating effect on Fe; $HgNO_3$ had practically no effect. Solns. of KI and of $K_4Fe(CN)_6$ were most effective with Ni and stainless steel. Solns. of KSCN, KI, K_2SO_4 and KNO_3 had the most effect on Ag. Na_2S was most effective in the grinding of Cu. The action of electrolytes in the grinding of metals is probably for the most part one of corrosion together with a change in the surface energy of the metal as a result of the adsorption of ions from the solns.

II. **The grinding of casehardened alloys of the type of "Widia" and "Podedite."** *Ibid.*, 929–30.—The amts. of Podedite ground off in 30 min. under the same conditions but in the presence of different solns. stood in the following ratios: in water 40, in 0.1 N HNO_3 115, in 1 N $Fe_2(SO_4)_3$ 111, in 2 N $AgNO_3$ 114, in 2 N $CuSO_4$ 1.81 and in a soln. 1 N with respect to $HgNO_3$ and 1 N with respect to HNO_3 1522. Both in water and in $CuSO_4$ soln. the speed with which the metal was ground away increased linearly with the speed of rotation of the disk. The rate of increase was steeper when the grinding was done with Podedite than when it was done with glass. The rate of grinding likewise increased linearly with the pressure applied (96–377 g./sq. cm.). This effect was more marked in Podedite (with a Cu grinding disk) than with Cu. The rate of grinding also increased with increase in the grain size of the emery powder used (7–50 μ). Quartz was considerably less effective than emery powder of the same grain size. Tests with Widia are not reported. Through *Chem. Zentr.* 1937, II, 3517; 1938, II, 1670. M. G. Moore



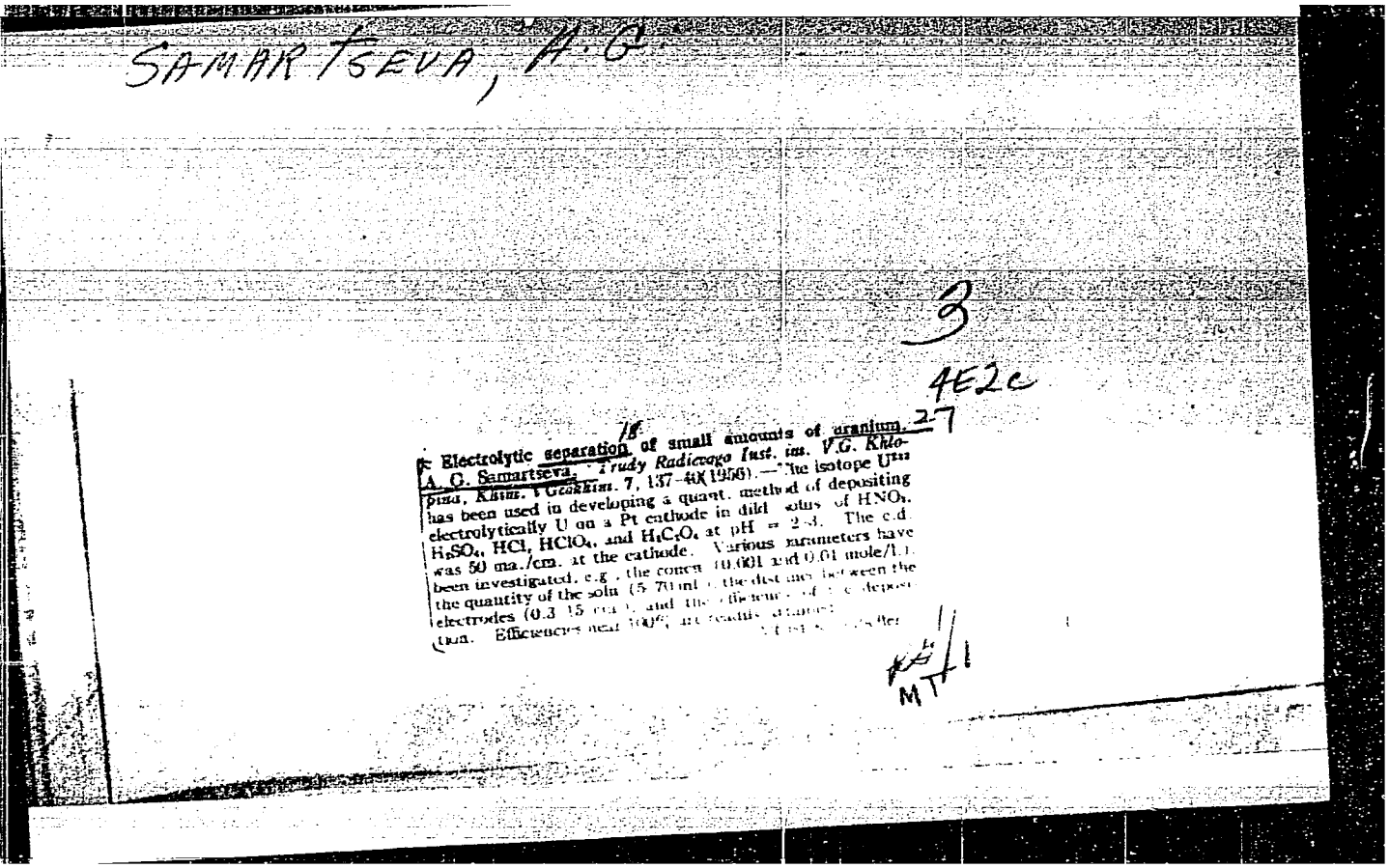
The chemistry of polonium. I. Compounds of bivalent polonium. A. G. Samartseva. *Trav. inst. Rad radium* (U. S. S. R.) 4, 133-303(in French, 301)(1938); cf. *C. A.* 29, 3505⁴.—Po is not adsorbed on glass from solns. in 0.25-1 *N* HCl, though in weaker solns. adsorption occurs and reaches 15% in 0.025 *N* HCl. In 2.5 *N* NaOH, 1% adsorption occurs, but when Na_2Te is present in the soln., there is no adsorption. Po can be quantitatively sepd. from Te if the latter is carefully ppt'd with hydrazine hydrate from 4.1-4.3 *N* HCl contg. a HNO$_3$. When a soln. contg. Te and Po is treated at 80° with NaOH and $Na_2S_2O_4$ in a H_2 atm., and then cooled to 0°, Na_2Te crystallizes and the crystals contain Po. The coeff. of distribution of Po between crystals and soln. follows the Berthelot-Nernst equation, so that Na_2Po, isomorphous with Na_2Te, must be present. When this Na_2Te-Na_2Po mixt. is treated with $Ph(PhCH_2)Me_2NCl$, Po is found in org. combination mixed with the $(PhCH_2)_2Te$ formed. Similarly, treatment of the Na_2Te-Na_2Po mixt. with Me_2SO_4 and distn. of the product shows that a mixt. of Me_2Te and Me_2Po is formed. Thus the existence of bivalent Po is proved. Fifty references. H. M. L.

Radium Inst., AS USSR



Chemistry of polonium. II. Preparation of sexavalent polonium. A. G. Samartseva (*Compt. rend. Acad. Sci. U.R.S.S.*, 1941, **33**, 498—501).—By observations on the distribution of Po between crystals of $K_2TeO_4.3H_2O$ (I) and its saturated solution, both in presence and in absence of K_2PO_4, it has been shown that Po crystallises isomorphously with the Te compound and enters the crystal lattice of (I). Hence Po can yield sexavalent compounds derived from H_2PoO_4. J. W. S.

Radium Inst, AS USSR



SAMARTSEVA, A. G.

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27

Electrolytic separation of small amounts of uranium. A. G. Samartseva. *Trudy Radievogo Inst. im. V.G. Khlopina, Khim. i Geokhim.* 7, 137–48(1956).—The isotope U^{238} has been used in developing a quant. method of depositing electrolytically U on a Pt cathode in dild. solns. of HNO_3, H_2SO_4, HCl, $HClO_4$, and $H_2C_2O_4$ at pH = 2–3. The c.d. was 50 ma./cm.^{2} at the cathode. Various parameters have been investigated, e.g., the concn. (0.001 and 0.01 mole/l.), the quantity of the soln. (5–70 ml.), the distance between the electrodes (0.3–15 cm.), and the thickness of the deposited film. Efficiencies near 100%, are readily obtained [illegible]

MT

SAMARTSEVA, A. G., (Radium Inst im V. G. Khlopina AS USSR)

"Electrolytic Separation of small quantities of Uranium, Neptunium and Plutonium"

Isotopes and Radiation in Chemistry, Collection of papers of 2nd All-Union Sci. Tech. Conf. on Use of Radioactive and Stable Isotopes and Radiation in National Economy and Science, Moscow, Izd-vo AN SSSR, 1958, 380pp.

This volume published the reports of the Chemistry Section of the 2nd AU Sci Tech Conf on Use of Radioactive and Stable Isotopes and Radiation in Science and the National Economy, sponsored by Acad Sci USSR and Main Admin for Utilization of Atomic Energy under Council of Ministers USSR Moscow 4-12 Apr 1957.

S/186/62/004/005/001/009
E111/E435

AUTHOR: Samartseva, A.G.

TITLE: Study of the adsorption of $Pu^{(IV)}$ on polished platinum

PERIODICAL: Radiokhimiya, v.4, no.5, 1962, 526-531

TEXT: Since the adsorption of tetravalent plutonium on platinum in some circumstances reaches very high values, its study is of practical as well as theoretical interest. Therefore the author studied this process, as well as desorption and the effect of other ions, in more detail than available from the scanty literature. He used Pu^{239} containing 0.7 to 0.8% (Pu^{238} + Am^{241}), the working solutions being contained in a mainly platinum apparatus with a working surface of about 100 cm^2. Hydrogen-ion concentration covered the range 10-1 to 10^{-12} M, that of the plutonium being 4×10^{-9} M. Adsorption increased to a maximum of 98% as the pH was reduced to 1.3 - 3.5; at pH values over 4 adsorption decreases, reaching a minimum of about 30% at pH = 7.8. Desorption studies with the same pH values showed that at pH > 2.5 the adsorption is irreversible. Adsorption is almost completely prevented by the presence of tetravalent zirconium ions at a concentration of

Card 1/2

Study of the adsorption ...

10^{-4} M, whereas it is unaffected by monovalent ammonium or bivalent lanthanum and yttrium ions at the same concentration. If the solutions contain H_2O_2 at a concentration of 10^{-2} M the adsorption rises to 97% even in very weakly acid and neutral solutions. There are 5 figures and 2 tables.

SUBMITTED: August 10, 1961

Card 2/2

S/186/62/004/006/002/009
E075/E433

AUTHOR: Samartseva, A.G.

TITLE: Adsorption of $Pu^{(IV)}$ on glass and quartz

PERIODICAL: Radiokhimiya, v.4, no.6, 1962, 647-655

TEXT: The dependence of the adsorption on pH for three different concentrations of plutonium (1×10^{-8}, 1×10^{-9} and 5×10^{-10} M) was studied. In the study of the adsorption of tetravalent plutonium on glass and quartz ^{239}Pu containing 0.7% of (^{238}Pu + ^{241}Am) was used. Quartz discs and glass vessels with surface areas of 9.8 cm^2 and 98 cm^2 respectively were used as adsorbents. The coefficient of adsorption was determined as a ratio of the activity of 1 cm^2 of the surface to the activity of 1 ml of the solution. It was found that with decreasing pH the adsorption of $Pu^{(IV)}$ on glass and quartz increases with the formation of a sharp maximum. The adsorption on quartz is higher than on glass, but the shape of the adsorption curves are identical for both materials. With decreasing concentration of plutonium in solution from 10^{-8} to 10^{-10} M the maximum of adsorption shifts towards higher pH values (from 2.8 to 3.6). This shift of the

Card 1/2

S/186/62/004/006/002/009
E075/E433

maximum and further descent of the adsorption curve is explained by the formation of true colloids of plutonium in the solution due to attainment of the solubility product for plutonium hydroxide. The desorption of $Pu^{(IV)}$ from glass with solutions of the same pH at which its adsorption was carried out, as well as desorption with 0.5 N nitric acid, was studied. In solutions with $pH < 4$ a noticeable reversibility of the adsorption process was observed, while in solutions with $pH > 4$ the process is less reversible. On the basis of comparison of general characteristics and the presence of sharp maximum on the adsorption curves and their dependence on pH for $Pu^{(IV)}$, $Zr^{(IV)}$ and $Th^{(IV)}$ it is considered that at $pH \simeq 3$ plutonium in solution forms true colloids. There are 8 figures and 4 tables.

SUBMITTED: August 5, 1961

SAMARTSEVA, A.G.

Electrodeposition of Am and Cm from aqueous solutions on a platinum cathode. Radiokhimiia 4 no.6:696-700 '62. (MIRA 16:1)

(Americium plating) (Curium plating) (Electrodes, Platinum)

SAMARTSEVA, A.G.

Adsorption of Pu(VI) on polished platinum. Radiokhimiia 5 no.1:28-32 '63. (MIRA 16:2)
(Plutonium) (Platinum) (Adsorption)

SAMARTSEVA, A.G.

Study of the adsorption of uranium on polished platinum.
Radiokhimiia 6 no.2:230-237 '64. (MIRA 17:6)

NIKOLAYEV, D.S.; LAZAREV, K.F.; KORN, O.P.; YAKUNIN, M.I.; DROZHZHIN, V.M.; SAMARTSEVA, A.G.

Isotopic composition of uranium in the waters and sediments of the Black and Azov Seas. Dokl. AN SSSR 165 no.1:187-189 N '65. (MIRA 18:10)

1. Submitted April 10, 1965.

SAMARUKOV, S. I., Engineer — Cand Tech Sci

Dissertation: "Multiple Roller Chains and Their Application in Well-Drilling Equipment."

27/6/50

Moscow Order of the Labor Red Banner Petroleum Inst imeni I. M. Gubkin.

SO Vecheryaya Moskva
Sum 71

SAMARYANOV, A.N.

Effect of the trawling speed rate on the changes in the trawl net parameters and tension. Trudy Azcherniro no.21:3-15 '63. (MIRA 17:8)